STATE OF SINGAPORE

DEVELOPMENT PLAN

1961–1964

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MINISTRY OF FINANCE

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PART I

CHAPTER 1

NATURE OF PROBLEMS

Introduction

1.1 This development plan is an attempt to solve some of the problems that face Singapore. It is necessary to examine the nature and extent of these problems in some detail in order to assess whether the development programmes proposed are necessary and if necessary whether they are adequate. In this chapter the problems at present facing the State are reviewed. As most of the problems arise out of the high rate of population growth, these are considered first, followed by a survey of the position of entrepôt trade and manufacturing industries and a consideration of their relative importance in contributing to the solution of the unemployment problem.

PROBLEMS OF POPULATION GROWTH

1.2. About 1.6 million people live on a small island 26 miles from east to west and 14 miles from north to south, and on some islets, which together with the island of Singapore cover a total area of 224.5 square miles. Singapore has no or very little natural resources in the generally accepted meaning of the term.

1.3. Singapore's population is rapidly expanding at a rate which is the highest known in the world. The average annual increase between the census years 1947 and 1957 was 4.3 per cent. Of this 3.6 per cent was due to natural increase and 0.7 per cent was due to migratory surplus.

1.4. The 1957 census provided basic information about race, sex and age distribution as at June 1957, and the Department of Statistics maintains reliable births and deaths statistics. With this information population estimates have been made for quinquennial periods up to 1982. These estimates are given in Table 1.1.

1.5. The method of calculation was as follows:

The age specific fertility rates were obtained by relating the average number of births for the three years 1956, 1957, and 1958, according to the age of mothers shown in the quinquennial age groups between the ages of 15 and 44, to the number of females of the corresponding age groups. This rate was then app'ied to the estimated female population between the ages of 15 and 44 for each five-year period for the next 25 years after 1957, to estimate the number of children expected to be born. The population estimate for each successive five-year period was based on the population as at 1957 projected by a set of survival ratios. These survival ratios were derived from Life Table functions calculated for 1957. No adjustments have been made for migratory surpluses or deficits.

TABLE 1.1

SINGAPORE POPULATION PROJECTIONS

(in thousands)

	1962	*1967*	*1972*	*1977*	*1982*
Existing fertility ...	1,713.7	2,017.2	2,383.5	2,840.5	3,406.7
Moderate fertility decline ...	1,713.7	2,008.2	2,342.4	2,733.4	3,186.5
Rapid fertility decline ...	1,713.7	1,999.3	2,301.3	2,626.5	2,966.4

1.6. *Existing fertility.*—Fertility as that in 1957 and no mortality decline.

Moderate fertility decline.—Fertility rates remain constant till 1962 and decline continuously thereafter by annual amount equal to 1 per cent of the pre-1962 rate. Mortality rates remain unchanged.

Rapid fertility decline.—Fertility rates remain constant till 1962 and decline continuously thereafter by annual amount equal to 2 per cent of the pre-1962 rate. Mortality rates remain unchanged.

1.7. Details of population projections are shown in Tables 1.2 (*A*, *B* and *C*).

1.8. Population control is only one of the long term solutions to the economic problems of Singapore. In the short term and particularly for the Plan period under consideration any possible decline in fertility would not make significant difference to the problems that have to be solved.

1.9. Even with a rapid decline in fertility there would be very little easing of the problems in the Plan period under consideration. A rapid decline of fertility would increase the age group 0–4 years to 340,600 by 1967 instead of the 358,500 if existing fertility is maintained. This reduction of 17,900 in the increase, important as it may be in the long run would not make any significant difference to most of the existing problems. The immediate impact of a rapid decline of fertility in the short run would only be an easing of the pressure on the State's maternity services.

DEPENDENCY PROBLEM

1.10. The rapid increase of population in the post-war years has led to a situation in 1957 where about 42.8 per cent of the population is under 15 years of age. If the existing fertility rate is maintained this proportion would be more or less maintained. In 1982 it is estimated that the percentage would be 46.9 per cent. Similarly those in the age-group 60 years and above would continue to constitute between 4 and 5 per cent of the population. Thus at least half the population would be dependent on the productivity of the other half.

1.11. In addition to the children and the aged there are 'house-workers' and 'full-time students' in the age group 15–59 years. In 1957 they were about 22.0 per cent of the population. It is not likely that these proportions would change radically in the near future. In all about two-thirds of the population are dependent on the productivity of a third.

TABLE 1.3

ECONOMIC ACTIVITY STATUS BY AGE GROUPS, 1957

Activity Status	*Age Group*			*Total*	%
	Under 15	*15—59*	*60+*		
Working	7,452	433,334	15,279	456,065	31.5
Looking for work ...	1,252	22,037	913	24,202	1.7
Gainfully employed ...	8,704	455,371	16,192	480,267	33.2
Home Houseworkers ...	14,274	249,084	8,761	272,119	18.8
Full-time students ...	211,929	48,068	. .	259,997	18.0
Others	384,197	18,965	30,384	433,546	30.0
Total	619,104	771,488	55,337	1,445,929	
Percentage ...	42.8	53.4	3.8	. .	100

Sources: Singapore Census 1957

Ministry of Education Report.

TABLE 1.2A

SINGAPORE POPULATION PROJECTIONS — Total All Races

Both Sexes	(a) Existing fertility					(b) Moderate fertility decline					(c) Rapid fertility decline				
	1962	1967	1972	1977	1982	1962	1967	1972	1977	1982	1962	1967	1972	1977	1982
Detailed age groups (in thousands)															
0– 4	310.8	358.5	429.7	531.9	654.2	310.8	349.5	397.5	465.4	539.7	310.8	340.6	365.2	398.9	425.2
5– 9	260.8	306.3	353.4	423.5	524.2	260.8	306.3	344.5	391.7	458.7	260.8	306.3	335.7	360.0	393.2
10–14	216.1	258.5	303.4	350.1	419.6	216.1	258.5	303.4	341.3	388.1	216.1	258.5	303.4	332.6	356.7
15–19	135.7	215.2	257.3	302.2	348.6	135.7	215.2	257.3	302.2	339.9	135.7	215.2	257.3	302.2	331.2
20–24	135.7	135.7	215.3	257.3	302.2	135.7	135.7	215.2	257.3	302.2	135.7	135.7	215.2	257.3	302.2
25–29	119.2	135.7	135.6	215.1	257.1	119.2	135.7	135.6	215.1	257.1	119.2	135.7	135.6	215.1	257.1
30–34	111.7	119.1	135.5	135.5	215.0	111.7	119.1	135.5	135.5	215.0	111.7	119.1	135.5	135.5	215.0
35–39	88.3	109.7	116.9	133.1	133.1	88.3	109.7	116.9	133.1	133.1	88.3	109.7	116.9	133.1	133.1
40–44	80.3	85.7	106.5	113.5	129.2	80.3	85.7	106.5	113.5	129.2	80.3	85.7	106.5	113.5	129.2
45–49	73.5	77.4	82.6	102.7	109.4	73.5	77.4	82.6	102.7	109.4	73.5	77.4	82.6	102.7	109.4
50–54	63.2	69.6	73.3	78.2	97.2	63.2	69.6	73.3	78.2	97.2	63.2	69.6	73.3	78.2	97.2
55–59	47.5	57.9	63.8	67.0	71.5	47.5	57.9	63.8	67.0	71.5	47.5	57.9	63.8	67.0	71.5
60–64	32.6	41.3	50.3	55.4	58.3	32.6	41.3	50.3	55.4	58.3	32.6	41.3	50.3	55.4	58.3
65–69	19.9	26.6	33.7	41.2	45.4	19.9	26.6	33.7	41.2	45.4	19.9	26.6	33.7	41.2	45.4
70–74	11.6	15.0	19.9	25.2	30.9	11.6	15.0	19.9	25.2	30.9	11.6	15.0	19.9	25.2	30.9
75 and over	6.8	5.0	6.4	8.6	10.8	6.8	5.0	6.4	8.6	10.8	6.8	5.0	6.4	8.6	10.8
All ages	1,713.7	2,017.2	2,383.5	2,840.5	3,406.7	1,713.7	2,008.2	2,342.4	2,733.4	3,186.5	1,713.7	1,999.3	2,301.3	2,626.5	2,966.4
Broad age groups (in thousands)															
0–14	787.7	923.3	1,086.5	1,305.5	1,598.0	787.7	914.3	1,045.4	1,198.4	1,386.5	787.7	905.4	1,004.3	1,091.5	1,175.1
15–29	390.6	486.6	608.1	774.6	907.9	390.6	486.6	608.1	774.6	899.2	390.6	486.6	608.1	774.6	890.5
30–44	280.3	314.5	358.9	382.1	477.3	280.3	314.5	358.9	382.1	477.3	280.3	314.5	358.9	382.1	477.3
45–59	184.2	204.9	219.7	247.9	278.1	184.2	204.9	219.7	247.9	278.1	184.2	204.9	219.7	247.9	278.1
60–74	64.1	82.9	103.9	121.8	134.6	64.1	82.9	103.9	121.8	134.6	64.1	82.9	103.9	121.8	134.6
75 and over	6.8	5.0	6.4	8.6	10.8	6.8	5.0	6.4	8.6	10.8	6.8	5.0	6.4	8.6	10.8
All ages	1,713.7	2,017.2	2,383.5	2,840.5	3,406.7	1,713.7	2,008.2	2,342.4	2,733.4	3,186.5	1,713.7	1,999.3	2,301.3	2,626.5	2,966.4
Per cent of total population															
0–14	46.0	45.8	45.6	46.0	46.9	46.0	45.5	44.6	43.8	43.5	46.0	45.3	43.6	41.6	39.6
15–29	22.8	24.1	25.5	27.3	26.7	22.8	24.2	26.0	28.3	28.2	22.8	24.3	26.4	29.5	30.0
30–44	16.4	15.6	15.0	13.4	14.0	16.4	15.7	15.3	14.0	15.0	16.4	15.7	15.6	14.6	16.1
45–59	10.7	10.2	9.2	8.7	8.2	10.7	10.2	9.4	9.1	8.7	10.7	10.3	9.6	9.4	9.4
60–74	3.7	4.1	4.4	4.3	3.9	3.7	4.1	4.4	4.5	4.2	3.7	4.1	4.5	4.6	4.5
75 and over	0.4	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.4
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 1.2B

SINGAPORE POPULATION PROJECTIONS — Total All Races

Males	(a) Existing fertility					(b) Moderate fertility decline					(c) Rapid fertility decline				
	1962	1967	1972	1977	1982	1962	1967	1972	1977	1982	1962	1967	1972	1977	1982
Detailed age groups (in thousands)															
0– 4	159.3	183.8	220.3	272.6	335.3	159.3	179.2	203.8	238.5	276.6	159.3	174.6	187.2	204.5	217.9
5– 9	134.7	157.0	181.2	217.1	268.7	134.7	157.0	176.6	200.8	235.1	134.7	157.0	172.1	184.6	201.6
10–14	110.8	133.3	155.3	179.2	214.8	110.8	133.3	155.3	174.7	198.7	110.8	133.3	155.3	170.3	182.6
15–19	70.8	110.2	132.5	154.4	178.2	70.8	110.2	132.5	154.4	173.7	70.8	110.2	132.5	154.4	169.3
20–24	70.2	70.9	110.3	132.5	154.4	70.2	70.9	110.3	132.5	154.4	70.2	70.9	110.3	132.5	154.4
25–29	61.2	70.2	70.8	110.2	132.5	61.2	70.2	70.8	110.2	132.5	61.2	70.2	70.8	110.2	132.5
30–34	59.7	61.1	70.0	70.6	110.0	59.7	61.1	70.0	70.6	110.0	59.7	61.1	70.0	70.6	110.0
35–39	49.2	58.6	59.9	68.7	69.3	49.2	58.6	59.9	68.7	69.3	49.2	58.6	59.9	68.7	69.3
40–44	45.1	47.7	56.8	58.1	66.5	45.1	47.7	56.8	58.1	66.5	45.1	47.7	56.8	58.1	66.5
45–49	41.2	43.2	45.7	54.4	55.6	41.2	43.2	45.7	54.4	55.6	41.2	43.2	45.7	54.4	55.6
50–54	35.4	38.6	40.5	42.9	51.0	35.4	38.6	40.5	42.9	51.0	35.4	38.6	40.5	42.9	51.0
55–59	26.2	31.7	34.6	36.2	38.4	26.2	31.7	34.6	36.2	38.4	26.2	31.7	34.6	36.2	38.4
60–64	17.2	21.9	26.5	28.9	30.4	17.2	21.9	26.5	28.9	30.4	17.2	21.9	26.5	28.9	30.4
65–69	9.2	13.2	16.8	20.4	22.3	9.2	13.2	16.8	20.4	22.3	9.2	13.2	16.8	20.4	22.3
70–74	4.6	6.3	9.0	11.5	14.1	4.6	6.3	9.0	11.5	14.1	4.6	6.3	9.0	11.5	14.1
75 and over	2.3	1.9	2.5	3.7	4.7	2.3	1.9	2.5	3.7	4.7	2.3	1.9	2.5	3.7	4.7
All ages	897.1	1,049.6	1,232.7	1,461.4	1,746.2	897.1	1,045.0	1,211.6	1,406.5	1,633.3	897.1	1,040.4	1,190.5	1,351.9	1,520.6
Broad age groups (in thousands)															
0–14	404.8	474.1	556.8	668.9	818.8	404.8	469.5	535.7	614.0	710.4	404.8	464.9	514.6	559.4	602.1
15–29	202.2	251.3	313.6	397.1	465.1	202.2	251.3	313.6	397.1	460.6	202.2	251.3	313.6	397.1	456.2
30–44	154.0	167.4	186.7	197.4	245.8	154.0	167.4	186.7	197.4	245.8	154.0	167.4	186.7	197.4	245.8
45–59	102.8	113.5	120.8	133.5	145.0	102.8	113.5	120.8	133.5	145.0	102.8	113.5	120.8	133.5	145.0
60–74	31.0	41.4	52.3	60.8	66.8	31.0	41.4	52.3	60.8	66.8	31.0	41.4	52.3	60.8	66.8
75 and over	2.3	1.9	2.5	3.7	4.7	2.3	1.9	2.5	3.7	4.7	2.3	1.9	2.5	3.7	4.7
All ages	897.1	1,049.6	1,232.7	1,461.4	1,746.2	897.1	1,045.0	1,211.6	1,406.5	1,633.3	897.1	1,040.4	1,190.5	1,351.9	1,520.6
Per cent of total population															
0–14	45.1	45.2	45.2	45.8	46.9	45.1	44.9	44.2	43.7	43.5	45.1	44.7	43.2	41.4	39.6
15–29	22.5	23.9	25.4	27.2	26.6	22.5	24.0	25.9	28.2	28.2	22.5	24.1	26.3	29.3	30.0
30–44	17.2	16.0	15.2	13.5	14.1	17.2	16.0	15.4	14.0	15.0	17.2	16.1	15.7	14.6	16.2
45–59	11.5	10.8	9.8	9.0	8.3	11.5	10.9	10.0	9.5	8.9	11.5	10.9	10.2	9.9	9.5
60–74	3.4	3.9	4.2	4.2	3.8	3.4	4.0	4.3	4.3	4.1	3.4	4.0	4.4	4.5	4.4
75 and over	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 1.2 C

SINGAPORE POPULATION PROJECTIONS — Total All Races

Females	(a) Existing fertility					(b) Moderate fertility decline					(c) Rapid fertility decline				
	1962	1967	1972	1977	1982	1962	1967	1972	1977	1982	1962	1967	1972	1977	1982
Detailed age groups (in thousands)															
0– 4	151.5	174.7	209.4	259.3	318.9	151.5	170.3	193.7	226.9	263.1	151.5	166.0	178.0	194.4	207.3
5– 9	126.1	149.3	172.2	206.4	255.5	126.1	149.3	167.9	190.9	223.6	126.1	149.3	163.6	175.4	191.6
10–14	105.3	125.2	148.1	170.9	204.8	105.3	125.2	148.1	166.6	189.4	105.3	125.2	148.1	162.3	174.1
15–19	64.9	105.0	124.8	147.8	170.4	64.9	105.0	124.8	147.8	166.2	64.9	105.0	124.8	147.8	161.9
20–24	65.5	64.8	104.9	124.8	147.8	65.5	64.8	104.9	124.8	147.8	65.5	64.8	104.9	124.8	147.8
25–29	58.0	65.5	64.8	104.9	124.6	58.0	65.5	64.8	104.9	124.6	58.0	65.5	64.8	104.9	124.6
30–34	52.0	58.0	65.5	64.9	105.0	52.0	58.0	65.5	64.9	105.0	52.0	58.0	65.5	64.9	105.0
35–39	39.1	51.1	57.0	64.4	63.8	39.1	51.1	57.0	64.4	63.8	39.1	51.1	57.0	64.4	63.8
40–44	35.2	38.0	49.7	55.4	62.7	35.2	38.0	49.7	55.4	62.7	35.2	38.0	49.7	55.4	62.7
45–49	32.3	34.2	36.9	48.3	53.8	32.3	34.2	36.9	48.3	53.8	32.3	34.2	36.9	48.3	53.8
50–54	27.8	31.0	32.8	35.3	46.2	27.8	31.0	32.8	35.3	46.2	27.8	31.0	32.8	35.3	46.2
55–59	21.3	26.2	29.2	30.8	33.1	21.3	26.2	29.2	30.8	33.1	21.3	26.2	29.2	30.8	33.1
60–64	15.4	19.4	23.8	26.5	27.9	15.4	19.4	23.8	26.5	27.9	15.4	19.4	23.8	26.5	27.9
65–69	10.7	13.4	16.9	20.8	23.1	10.7	13.4	16.9	20.8	23.1	10.7	13.4	16.9	20.8	23.1
70–74	7.0	8.7	10.9	13.7	16.8	7.0	8.7	10.9	13.7	16.8	7.0	8.7	10.9	13.7	16.8
75 and over	4.5	3.1	3.9	4.9	6.1	4.5	3.1	3.9	4.9	6.1	4.5	3.1	3.9	4.9	6.1
All ages	816.6	967.6	1,150.8	1,379.1	1,660.5	816.6	963.2	1,130.8	1,326.9	1,553.2	816.6	958.9	1,110.8	1,274.6	1,445.8
Broad age groups (in thousands)															
0–14	382.9	449.2	529.7	636.6	779.2	382.9	444.8	509.7	584.4	676.1	382.9	440.5	489.7	532.1	573.0
15–29	188.4	235.3	294.5	377.5	442.8	188.4	235.3	294.5	377.5	438.6	188.4	235.3	294.5	377.5	434.3
30–44	126.3	147.1	172.2	184.7	231.5	126.3	147.1	172.2	184.7	231.5	126.3	147.1	172.2	184.7	231.5
45–59	81.4	91.4	98.9	114.4	133.1	81.4	91.4	98.9	114.4	133.1	81.4	91.4	98.9	114.4	133.1
60–74	33.1	41.5	51.6	61.0	67.8	33.1	41.5	51.6	61.0	67.8	33.1	41.5	51.6	61.0	67.8
75 and over	4.5	3.1	3.9	4.9	6.1	4.5	3.1	3.9	4.9	6.1	4.5	3.1	3.9	4.9	6.1
All ages	816.6	967.6	1,150.8	1,379.1	1,660.5	816.6	963.2	1,130.8	1,326.9	1,553.2	816.6	958.9	1,110.8	1,274.6	1,445.8
Per cent of total population															
0–14	46.9	46.4	46.0	46.2	46.9	46.9	46.2	45.1	44.0	43.5	46.9	45.9	44.1	41.7	39.6
15–29	23.1	24.3	25.6	27.4	26.7	23.1	24.4	26.0	28.5	28.2	23.1	24.6	26.5	29.6	30.1
30–44	15.5	15.2	15.0	13.4	13.9	15.5	15.3	15.2	13.9	14.9	15.5	15.4	15.5	14.5	16.0
45–59	10.0	9.5	8.6	8.3	8.0	10.0	9.5	8.8	8.6	8.6	10.0	9.5	8.9	9.0	9.2
60–74	4.0	4.3	4.5	4.4	4.1	4.0	4.3	4.6	4.6	4.4	4.0	4.3	4.6	4.8	4.7
75 and over	0.5	0.3	0.3	0.3	0.4	0.5	0.3	0.3	0.4	0.4	0.5	0.3	0.4	0.4	0.4
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The dependency problem in Singapore is much greater than that in most countries. Of the countries used for comparison in Table 1.4 only two countries have a greater dependency problem—Pakistan and Puerto Rico. The figures in Table 1.4 are useful in so far as they assist in broad comparisons. It is important to bear in mind, however, that the difference in the respective burdens facing the countries would be far greater in real terms than is reflected in the figures, the reason being that in the less developed countries such as Singapore and Puerto Rico the actual earning capacity of the economically active population is far less than that of the same in the developed countries like the United States, United Kingdom and Australia.

TABLE 1.4

PROPORTION OF ECONOMICALLY ACTIVE TO TOTAL POPULATION

Country	*Year*	*Percentage Economically Active*
Puerto Rico ...	... 1950	27.0
Pakistan ...	... 1951	30.7
Singapore ...	... 1957	35.2
India ...	... 1951	39.5
United States	... 1951	39.8
Australia ...	... 1947	42.2
United Kingdom	... 1951	46.3

1.12. In view of the low ratio of the economically active to the total population in Singapore, it has become even more urgent that the burden on those employed is not made greater by any large scale unemployment of those who could be economically active. Employment of those in the community capable of working is necessary to maintain the very large segments of the community that are incapable of work.

SOCIAL SERVICE REQUIREMNTS

1.13. Very rapid investment in social capital is necessary to keep pace with the population growth, if the standard of services hitherto provided is to be maintained. But as this investment has very often to be made at the expense of even more urgent economic investment, the immediate objective may have to be less ambitious. It may have to be a very modest one of not allowing these services to deteriorate. It may have to be one of containing the situation, so that the economic investment can be given the first priority in the allocation of scarce capital resources. Some of the less urgent social investments may have to be postponed to subsequent years.

Housing

1.14. It is estimated that to house the annual increase in the population alone requires about 10,000 dwellings per annum. This does not take into account the need to remedy existing deficiency in housing nor the urgent need to rebuild in slum clearance programmes. To meet the needs from all these major sources it is estimated that a total of about 14,000 dwellings per annum would be required.

1.15. Part of the housing needs would as in the past be met by private builders. On the basis of the average rate of production by private builders over the years 1953–57 (inclusive) the contribution from private enterprise to housing is not expected to exceed 2,250 dwellings per annum. In addition to this, other public authorities provide about 250 dwellings per annum (mainly institutional quarters). Therefore there remains a gap of some 11,500 dwellings to be met by the Housing and Development Board. This Board has a programme for building 39,271 units at an estimated cost of $153.1 million over the four-year period 1961–64 or an average of 9,817 units per annum at an estimated cost of $38.3 million.

Education

1.16. In the period 1960–64 the number of children between the ages 6 to 17 would increase from 455,149 to 584,654.

1.17. It is envisaged that the school going population would increase from 341,500 in 1960 to 475,190 in 1964. The annual breakdown of estimated increase in the school going population is given in the table below.

TABLE 1.5

ESTIMATE OF SCHOOL GOING POPULATION 1960-64

	1960 actual	*1961*	*1962*	*1963*	*1964*
Primary Schools ...	285,430	305,730	320,120	331,820	342,580
Secondary Schools ...	56,070	78,430	95,470	110,760	132,610
Total ...	341,500	384,160	415,590	442,580	475,190

1.18. To meet this expected increase in the number of pupils the following number of schools have to be built.

TABLE 1.6

MINIMUM NUMBER OF NEW SCHOOLS REQUIRED 1961–64

Types of Schools	*1961*	*1962*	*1963*	*1964*	*Total*
Primary	11	8	6	6	31
Vocational/Commercial ...	9	9	4	5	27
Grammar/Technical ...	3	1	5	9	18

1.19. In order to run these schools it would be necessary to recruit over the Plan period 4,280 teachers of the following grades:

TABLE 1.7

NUMBER OF NEW TEACHERS REQUIRED 1961–64

Qualifications	*1961*	*1962*	*1963*	*1964*	*Total*
Non-graduates	1,280	970	750	840	3,840
Pass Graduates	40	10	60	110	220
Honours Graduates ...	40	10	60	110	220
Total ...	1,360	990	870	1,060	4,280

Health

1.20. The need for maintaining a high standard of health services is not purely based on a humane and civilized recognition of the value of human life. Nor is it purely a desire to alleviate human suffering. It is also based on economic considerations.

1.21 A very considerable part of the community's resources has already been invested in its population. Scarce resources have been invested in the form of food, clothing, education and the other social investments that a community makes in its population. In order to reap the benefits of these investments it is necessary that facilities are provided to protect the population from the avoidable hazards of living. Death or incapacitation of persons capable of adding to the national income, aside from other considerations, would be a waste of the capital that the community has invested. Consequently it is of some importance in any attempt to make use of the capital resources of a community, to continue investments for maintaining the health of the population.

1.22 For Singapore's population at the present rate of annual increase, it was estimated in 1953 that there was an immediate need in hospitals for 5,000 beds and

250 additional beds would be required for each of the subsequent years. On this calculation there should be 6,500 beds in 1959 and 7,750 beds at the end of 1964.

1.23. The position at present is far from satisfactory. There are only five hospitals with a total of 2,113 beds. Consequently there is very great congestion in the hospitals and patients have to be discharged much earlier than it is safe in order to make place for more urgent cases.

1.24. This pressure on the hospital services would continue to increase with the growth of the population and with increasing health education of the population. With increasing health education, more people would seek hospital facilities in the first instance. Disease prevention and the consequent easing of pressure on the curative services would only become effective after some time.

1.25. There are at present 23 public dispensaries (Government and City Council) which can treat up to 5,000 patients a day. In the period 1960–64 the number of patients requiring outdoor clinic treatment is expected to increase to 13,750 per day. For the 8,750 patients per day that cannot be treated with the existing facilities, it would be necessary to build 18 clinics each of which would treat 500 patients per day.

EMPLOYMENT REQUIREMENTS

1.26. The increases in the number of economically active persons was derived from population estimates by projecting the 1957 census ratio of economically active in each age group, separately for males and females. The estimates make no allowance for migratory influences. It also assumes that the sociological factors that restrict the number of females seeking employment would continue to be operative and there would be no change in the ratio of females seeking employment in each age group.

TABLE 1.8

ESTIMATES OF ECONOMICALLY ACTIVE POPULATION (15 YEARS AND OVER)

	1957	*1962*	*1967*	*1972*
Total ...	471,500	523,000	602,100	707,500
Increase ...	..	51,500	79,100	105,400

1.27. The estimated increase in the economically active population during the four-year period 1961–1964 would be about 52,000 persons.*

1.28. A comparison of the unemployment figures of the 1957 census and the 1959 Labour Force Survey shows that net employment has been falling by about 1,000 each year in the two years.

1.29. In 1957 there were 24,000 unemployed persons of whom 16,000 were those who had been previously employed. In 1959 the total unemployed was 46,000 of whom 28,000 had been previously employed.

1.30. This may not be an accurate picture, because of differences in the definition of 'employed', coverage, etc. of the two estimates. It does however give an indication of the problem of finding employment for those who are entering the labour market each year.

1.31. The solution to the increasing unemployment problem has to be more than just the industrialization of Singapore. In addition to the increase in unemployment due to natural increase, there is the unemployment created by the migratory surplus from the Federation of Malaya. In some years this migratory surplus is almost equal to the numbers entering the labour market as a result of natural increase.

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* Estimate based upon the parabolic curve formula $y = a + bx + cx^2$

TABLE 1.9

POPULATION MOVEMENT BETWEEN SINGAPORE AND FEDERATION, 1950–1959

	1950	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*
Federation Cards surrendered ...	16,657	25,115	21,576	18,220	17,315	14,458	15,658	20,327	19,284	13,166
Singapore Cards surrendered ...	13,215	13,875	13,428	13,183	12,597	10,602	8,460	9,084	8,764	5,186
Difference ...	3,442	11,240	8,148	5,037	4,718	3,856	7,198	11,243	10,520	7,980

In the last two years 1958–1959 more than two-thirds of the migratory surplus was in the age group 15–29 years. Children 12–14 years were only about 6%.

1.32. This migratory surplus is very largely a result of the urban shift that is taking place throughout the country. Improvements in education and means of communication, and the continuing stagnation of the countryside lead many young men and women to seek jobs and a living in the towns. Singapore being the biggest city, and the one that is most industrialized has the most attractions. The basic attraction is the belief that jobs are easier to come by and the wages are higher. This attraction would not necessarily be destroyed by increasing unemployment. It could continue to exist if there were sufficient turnover in employment thus creating the illusion that jobs are possible to come by. Consequently in the early stages of industrialization a parodoxical situation would most probably arise. Increasing levels of employment would not decrease unemployment but increase it. As long as there is a pan-Malayan immigration policy facilitating unrestricted mobility of labour *industrialization can only reduce unemployment in either of the territories when there is a balanced development in both the Federation of Malaya and Singapore.*

1.33. The magnitude of the problem posed by migratory surplus can be seen by examining the figures in Table 1.9.

1.34. The migratory surplus due to people moving between Federation and Singapore in the last ten years has been about 75,000. This has been calculated from records of persons exchanging identity cards. As identity card registration is much more lax in Singapore than in the Federation the migratory surplus may be considerably higher.

ENTREPÔT TRADE

1.35. Entrepôt trade and manufacturing form the main economic activities of Singapore. The important position of entrepôt trade is widely recognized but it is seldom appreciated that manufacturing gives employment to almost as many, if not more, persons as entrepôt trade and contributes more to the national income.

TABLE 1.10

EMPLOYMENT IN ENTREPÔT TRADE AND MANUFACTURING, 1957

	Employment 1957
Entrepôt Trade*	71,362
Manufacturing†	66,754

1.36. From the detailed examination of these two economic activities in the sections that follow, two conclusions emerge. Entrepôt trade, which is traditionally associated with the prosperity of Singapore has very limited possibilities of expansion. The danger is that there may be some decline in the future. Because of this, greater emphasis will have to be placed on industrialization in order to provide empolyment for the rapidly growing population.

1.37. Secondly though conditions for rapid industrialization may not be as conducive as one may desire them to be, there are strong grounds for expecting reasonable industrial development if suitable institutional and financial measures are taken by the Government.

1.38. While the need for industrial expansion is realized to be urgent for reasons to be dealt with later, it is envisaged, however, that even if industrialization is undertaken successfully and rapidly there can be no significant reduction in Singapore's reliance on entrepôt trade within the period under consideration. Although development of economic services with a strong industrial bias is undoubtedly given priority in the development programme, it is only to be expected

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* Includes 9,567 persons engaged in processing raw materials i.e. manufacturing ancillary to entrepôt trade and 24,516 persons in water transport whose employment is partially due to internal trade and manufacturing activities.

† Excludes processing of raw materials.

that favourable results would not show so dramatically in the short run. Consequently the needs of entrepôt trade would have to receive every attention the Government can give and every possible effort would have to be made to encourage whatever expansion is possible.

Value and Content

1.39. In 1956, total external trade of Singapore amounted to $7,359 million. Of this $6,023 million constituted entrepôt trade or 82 per cent of the total trade.

1.40. Singapore's entrepôt trade has grown as a result of the enhancement of its geographical advantages by careful building of excellent harbour facilities and transport network together with essential banking and other commercial facilities. Geographically, Singapore lies in the centre of one of the world's most important raw-material-producing regions, a region that produces most of the world's rubber and tin, a substantial part of the world's petroleum as well as other primary products. The region consisting largely of primary producers is little developed in manufacturing activities which results in the need for large amounts of manufactured goods to be imported. It is in this context that Singapore, standing at the crossroad of international sea routes, achieved importance by gathering the region's raw materials for export to industrialized countries and in return receive for redistribution to consumers of the region the manufactured goods of industrialized countries.

1.41. The content of Singapore's entrepôt trade may be broadly sub-divided into the following categories:

(1) trade in commodities produced by neighbouring countries such as rubber, tin, pepper, copra, spices, forest produce, etc. which are re-exported to Europe, America and other parts of the world after grading and processing;

(2) trade in manufactured goods produced in Europe, America and elsewhere which are re-exported to neighbouring countries;

(3) trade in major staples such as rice, dried and salted fish, salted vegetables, etc. which are again required for distribution to neighbouring countries.

Regional Pattern

1.42. The group of "entrepôt trade" countries comprise the Federation of Malaya, Indonesia, the British Borneo territories, the Associated States of Indo-China, Thailand and Burma. These mainly lie within a radius of 1,000 miles or so from Singapore.

1.43. The importance of trade with this group of countries is clearly indicated by the trade statistics of Singapore. It is seen that for the past ten years the percentage of trade with these countries had been maintained at a level of between 47.3 and 50.9 per cent of Singapore's total trade (excluding exports of bunkers and ships' and aircraft stores). One notable characteristic is that despite the fluctuations in total trade figures (reflecting world trade fluctuations) the ratio of trade with neighbouring countries to total trade is more or less constant.

1.44. It is to be expected from the importance of entrepôt trade to Singapore that Singapore's trade would show a tendency of being tied to the fortunes of neighbouring countries which in turn show a sensitivity to world demand conditions. In times of increasing world demand for industrial raw materials from this region, this increased demand is reflected either by higher prices of raw materials or a larger volume of exports from the region or both.

1.45. The increased earnings would in turn induce a corresponding increase in imports to the region. The net result is a general expansion of both the total trade of Singapore and the entrepôt content of it.

Earnings and Employment

1.46. A striking picture of the importance of entrepôt trade to Singapore is obtained by examining the estimates of earnings from this trade and the number of persons directly employed in it.

1.47. It has been estimated by the International Bank for Re-construction and Development that the total pan-Malayan income from entrepôt trade for the years 1949 to 1953 was as follows:

	$ million
1949	119
1950	421
1951	582
1952	248
1953	160

Preliminary estimates made of the earnings from entrepôt trade of Singapore taking into account trade with the Federation of Malaya, during the three years from 1956—58 (inclusive) indicate that the order of magnitude lies between $350 million and $400 million. This would be in the region of about one-fifth of the total national income.

1.48. The 1957 census of population enumerated over 470,000 persons as economically active. Of this, over 70,000 were employed in wholesale trade, import and export trade, agency houses, commercial banks and insurance, processing of raw materials, water transport and other services connected with the entrepôt trade.

1.49. The following table indicates the extent of employment in these trading and allied activities and the relative importance of each:

TABLE 1.11

NUMBERS EMPLOYED IN ENTREPÔT TRADE ACTIVITIES, 1957

	No. of persons	*Percentage of Total Economically Active*
Commerce	27,558	5.83
Commercial banks and insurance ...	5,226	1.11
Processing raw materials	9,567	2.03
Water transport	24,516	5.19
Other services connected with entrepot trade	4,515	.96
Total ...	71,382	15.12
Total Economically Active Population ...	471,918	100.00

1.50. In addition to the above there is probably an appreciable number of persons engaged in activities which are related to entrepôt trade, e.g. various business services, retail trades, etc. Figures for these are not readily available as the involvement of persons in these activities in entrepôt trade is more difficult to ascertain than those listed in Table 1.11.

1.51. The importance of entrepôt trade to Singapore in generating income and therefore directly influencing effective demand and the level of employment cannot be overstressed.

Future of Entrepôt Trade and Effects on Employment opportunities

1.52. It is however an inescapable fact that irrespective of improved facilities to encourage trade expansion there are factors controlling the extent of entrepôt trade which are beyond this country's influence. Of these the two most important are

the general desire of all countries of the region to develop manufacturing industries and thus reduce imports and secondly trade directly with the countries using the raw materials they produce and thus by-pass Singapore.

1.53. It would be seen from Table 1.12 below that in spite of two factors discussed above the total volume of trade has been more or less steady over the five years in the region of $7,000 million.

TABLE 1.12

TRADE OF SINGAPORE—1955–1959 in $ million

	Imports	*Exports*	*Total*
1955	3,854	3,369	7,223
1956	3,930	3,430	7,360
1957	4,062	3,478	7,440
1958	3,740	3,141	6,881
1959	3,908	3,440	7,348

Further, Singapore's share of the trade with neighbouring countries did not diminish despite the desire to by-pass Singapore. Table 1.13 will illustrate this. Imports from these countries mainly for re-export purposes, have generally been quite steady. If the imports from the Federation of Malaya are excluded,, it would be noticed that there has been a tendency for imports to increase slightly. In 1955 value of such imports was $1,367 million which increased to $1,529.5 million by 1959. Only in 1958 was there a decline as shown by Table 1.13.

1.54. Exports to most of the neighbouring countries have continued to increase. The trend can be better seen by separately considering—

(1) Singapore's trade with other neighbouring countries.
(2) Singapore's trade with Federation of Malaya.

Exports to most of the countries in group (1) have shown a steady increase up to 1958. In 1959 exports to Indonesia decreased drastically from $352.3 million in 1958 to $131.3 million. Since exports to Indonesia constitutes about half the total export trade with this group of countries, the total slumped badly. On the other hand, exports to Federation of Malaya has been steady in the last four years at about $700 million.

1.55 The reduction in exports to Indonesia is probably temporary. Even so, it would only be realistic to recognise that there are no prospects of any large increase in trade for Singapore. Even if the usual volume of trade could be maintained or even slightly increased, trade and allied activities alone could not provide the required employment opportunities for Singapore's fast-growing population, of which larger and larger numbers are entering the labour market every year. Even so Singapore cannot afford to disregard the needs of trade. The existing facilities have not only to be maintained but even expanded, so that better and cheaper service can be provided. This may make it possible not only to retain the present share of the entrepôt but could also lead to small marginal increases.

MANUFACTURING INDUSTRIES

1.56. According to the 1957 census 66,754 persons were engaged in manufacture. This included those who had been previously employed in manufacturing industries but were unemployed during the census period. A breakdown of the gainfully employed population in these industries showed that something like less than a sixth of them were own account workers and family helpers. Slightly less than 45 per cent of the own account workers and family helpers were engaged in making garments and footwear.

TABLE 1.13

SINGAPORE'S TRADE BY NEIGHBOURING COUNTRIES 1955-1959

IMPORTS					Value in Million $	EXPORTS				
1955 $	1956 $	1957 $	1958 $	1959 $	Countries	1959 $	1958 $	1957 $	1956 $	1955 $
1,018.9	1,020.2	1,099.5	965.2	1,135.7	Indonesia	131.3	352.3	250.3	220.2	188.4
21.7	20.8	20.2	13.1	23.5	North Borneo	61.1	59.3	68.4	57.1	44.7
179.2	212.5	187.2	164.9	184.5	Sarawak	82.2	69.2	78.3	83.9	90.0
4.0	3.4	2.8	2.5	4.0	Brunei	21.5	25.5	28.0	28.7	25.9
112.6	137.2	127.0	130.1	146.5	Thailand	95.3	81.7	69.8	70.2	59.8
30.6	19.2	32.9	55.4	35.3	Indo-China	53.8	49.6	45.9	41.2	38.8
1,367.0	1,413.3	1,469.6	1,331.2	1,529.5	Sub-total	445.2	637.6	540.7	501.3	447.6
988.2	831.2	784.7	639.5	802.7	Federation of Malaya	719.7	659.3	705.0	696.9	586.7
2,355.2	2,244.5	2,254.3	1,970.7	2,332.2	Sub-total	1,164.9	1,296.9	1,245.7	1,198.2	1,034.3
2,865.4	3,098.3	3,277.4	3,100.6	3,105.5	Total Foreign Trade	2,720.7	2,481.2	2,773.1	2,732.8	2,781.8
3,853.6	3,929.5	4,062.1	3,740.1	3,908.2	Total Trade	3,440.4	3,140.5	3,478.1	3,429.7	3,368.5

1.57. A breakdown of the persons engaged in manufacture is given below in Table 1.14.

TABLE 1.14

PERSONS ENGAGED IN MANUFACTURING INDUSTRIES BY OCCUPATIONAL STATUS, 1957

Manufacturing	*Employers*	*Employees*	*Own Account Workers and Unpaid Family Workers*	*Total*
Foodstuff	321	7,384	1,166	8,871
Garments and Footwear ...	802	7,151	5,381	13,334
Wood Products	371	7,531	2,346	10,248
Paper Products and Printing ...	197	5,846	280	6,323
General Engineering and Electrical Products	475	11,227	1,319	13,021
Others	588	12,553	1,816	14,957
Total ...	2,754	51,692	12,308	66,754

Source: Singapore Census 1957.
Table 85.

1.58. The value of the output of manufacturing industries in 1956 was estimated to have been $420 million. This estimate has been derived by adding to Dr. F. C. Benham's estimate of personal consumption of domestic manufactures, estimates of capital formation and domestic manufactures by the Statistics Department.

TABLE 1.15

GROSS VALUE OF OUTPUT OF MANUFACTURING INDUSTRIES, 1956

	$ million
Personal Consumption	180
Machinery and Equipment	40
Exports	200
Total ...	420

Manufactures for personal consumption were mainly foodstuffs which amounted to nearly $100 million. The second largest item was furniture which was valued at $60 million.

1.59. The manufactures exported in 1956 were as follows:

TABLE 1.16

EXPORTS OF MANUFACTURES, 1956

		$ million
Section 0 to 4	Foodstuff and Crude Materials	95.0
Section 5	Chemical Products	22.9
Section 6	Manufactured Goods	43.4
Section 7	Machinery and Transport Equipment ...	18.7
Section 8	Miscellaneous Manufactured Goods	21.4
	Total ...	201.4

1.60. Contrary to general belief, Singapore's manufacturing industries are not made up of very small firms employing less than ten workers. There are a large number of such small firms but they employ only a small part of the workers. Most of the workers are employed in firms, employing more than 30 workers.

1.61. Table 1.17 gives the distribution of 35,492 workers in 2,401 firms. The census for 1957 showed that the gainfully employed population in manufacturing industries was 51,692 persons. The difference 16,200 is partly accounted for by persons who were in manufacturing but unemployed during the census period, office and sales staff who are not included in labour returns.

TABLE 1.17

DISTRIBUTION OF EMPLOYERS AND WORKERS BY SIZE OF FIRM, 1956

MANUFACTURING

	Employers		*Workers*	
	No.	*%*	*No.*	*%*
Less than 10 workers ...	1,750	72.9	5,633	15.9
10 – 29 workers ...	424	17.6	6,542	18.4
30 – 99 workers ...	159	6.7	8,301	23.4
100 + workers ...	68	2.8	15,016	42.3
Total ...	2,401	100.0	35,492	100.0

Prospects of Development

1.62 There has been considerable development in industries manufacturing foodstuff and other domestic consumption goods. Production methods range from modern factories like that of National Carbon (M.) Ltd. and Metal Box (M.) Ltd. to backyard producers whose methods are not far removed from those practised centuries ago in China. Despite this wide range it is true to say that by and large Singapore's manufacturing industries use modern methods of production.

1.63. The high level of education of the youthful population, and the training facilities that are being developed is creating a labour force adaptable to any significant industrial development.

1.64. Many of the services and amenities created for servicing the entrepôt trade—a very good port, financial institutions, good power and water supply and good communication services—can be developed to service industrial development. The other conditions necessary for industrial development can be discussed under two headings.

Markets

1.65. In general terms the geographical position of Singapore, one of the major causes for her development as an entrepôt port may be conducive to her industrial development. Manufacturing industries which would have to depend on export markets in the region and on imported raw materials could be best located in Singapore. This is also true where industries have to depend on raw materials scattered over the region. In such cases Singapore's central position and deep water anchorages may offset her disadvantage of not being a raw material producer.

1.66. Singapore's market for manufactured goods is not small when compared with those of countries with very much larger populations. The size of the market for manufactured goods is not a function of the size of population but it is a function of purchasing power. Singapore with the highest *per capita* national income in the region has a market which is sizeable in comparison with those of the surrounding countries.

TABLE 1.18

COMPARISON OF RETAINED IMPORTS OF MANUFACTURED GOODS

$ million

	Singapore 1958	*Federation of Malaya 1958*	*Ceylon 1957*
Chemicals	65.1	99.4	77.5
Manufactured Goods ...	246.4	246.1	247.7
Machinery and Transport ...	120.7	205.1	130.1
Miscellaneous Manufacture ...	119.5	90.6	60.3
	551.7	641.2	515.6

Source: Ceylon Ten Year Plan, page 347,
Singapore External Trade 1957/8,
Federation of Malaya External Trade 1958.

In addition to this, Singapore has an export market made up of exports of domestic manufacture and re-exports of $315.5 million. A low projection of the market, i.e. increase in the domestic market through population increase and no increase in the living standards or investment would be of the following order:

TABLE 1.19

ESTIMATES OF SINGAPORE'S HOME MARKET FOR MANUFACTURED GOODS

$ million

	1958	*1962*	*1967*	*1972*
Chemicals	65.1	72.1	84.5	98.5
Manufactured Goods	246.4	272.8	319.8	373.0
Machinery and Transports ...	120.7	133.7	156.6	182.7
Miscellaneous Manufactures ...	119.5	132.3	155.1	180.9
Total ...	551.7	610.9	716.0	835.1

1.67. In addition to the long term expansion of domestic market through growth of population and rise in the standard of living, consideration is being given to expanding markets by new regional arrangements and/or by participating in existing arrangements.

Capital Supply

1.68. The major impediment to the flow of domestic capital into industrial development is the lack of industrial know-how among the owners of capital. Much of the capital accumulation is the result of trading activities. The experiences and calculations of successful traders are not generally suitable for industrial decision. Trade often takes the form of speculation and trade decisions generally require understanding of situations expected to prevail over a short period. Consequently commercial capital is accustomed to short period risks or quick profits with high rates of profit expectations.

1.69. Such capital is not easily adapted to industrial investments which require careful long-term planning, and very often give only moderate steady profits.

1.70. In the past commercial capital has quite often acquired structural mobility, the capacity for investment in industrial projects, by association with foreign industrial capital. Foreign capitalists who have the technical know-how to initiate the enterprise quite often seek local partners and this makes it possible for some capital that has originated in trade to move into industries. In other cases local

capitalists buy shares of industrial enterprises started by foreign capital after the enterprise has become successful.

1.71. There is probably considerable amount of local capital that can be invested in industrial enterprises if serious structural immobilities are removed. It is generally believed that the volume of such capital would be sufficient to give the necessary push for industrial development.

1.72. However because of Singapore's entrepôt trade, it is necessary that nothing is done which may seriously disturb the confidence of the business community. Consequently draconic measures successfully used in some other countries to give mobility to capital is not available to the Government of Singapore. Capital mobilization for industrial development would have to be a slow process of persuasion and inducement. As a part of this process it will be necessary to create some organ of state that would lend money to industrialists and/or join them in industrial enterprise.

1.73. In order to encourage the flow of capital into industries two legislative measures have been taken. Through the Pioneer Industries Ordinance it is possible to give new industries exemption from income tax for five years. Similarly the Expansion of Industries Ordinance will make it possible to give income tax exemption to existing firms that wish to expand.

1.74. In general terms the problems of trade and industry have to be solved by enlarging the port facilities, improving means of communication, laying out of industrial estates, expanding electricity and water supplies, and creating the financial institutions that can aid industrial development.

SUMMARY

1.75 (i) Most of the problems facing Singapore arise out of the high rate of population growth.

(ii) Average annual increase between 1947–1957 was 4.3 per cent.

(iii) Population control, an important long-term solution to economic problems, will have no significant impact in the Plan period.

(iv) The dependency problem is great—about two-thirds of the population depend on the productivity of a third.

(v) Social service requirements—health, education and housing—to match the population growth would involve heavy investment. Some less urgent social investments will have to be postponed to give way to more urgent needs for economic development.

(vi) The economically active population is estimated to increase by about 52,000 persons in the Plan period.

(vii) Entrepôt trade, traditionally associated with Singapore's prosperity, has very limited possibilities of expansion. More emphasis will have to be placed on industrialisation in order to provide job opportunities required by the growing population.

(viii) It is recognised that even with successful industrialisation programmes there can be no significant reduction in the State's reliance on entrepôt trade within the Plan period.

(ix) The existing importance of manufacturing industries could be seen from the numbers employed in them. According to the 1957 census, 66,754 persons were engaged in manufacture. The total economically active population then numbered 471,500.

(x) The two main conditions necessary for industrial development are markets and supply of capital.

(xi) Singapore's market for manufactured goods is not small when compared with neighbouring countries with much larger populations.

(xii) Export markets have to be expanded, one of the means being to establish new regional trading arrangements.

(xiii) There is probably considerable amount of local capital which could be channellized into industrial development. Commercial capital, however, is not easily adaptable to industrial investments without deliberate measures of inducement by Government. Besides legislative measures, there will have to be an organization for industrial financing and provision of technical know-how.

CHAPTER II

PAST PERFORMANCE

GENERAL

2.1. A summary of past performance is given in Tables 2.1, 2.2 and 2.3, which are derived from the published "Financial Statements" for the various years, except in respect of 1960, where preliminary figures supplied by the Accountant-General before finalisation of accounts are given.

2.2. The figures in row 1 of Table 2.1 are those of annually recurrent expenditure corresponding to what is now known as expenditure on the Consolidated Revenue Account of the Estimates for the year. Included in such expenditure are the contributions to the Development Fund charged in the Consolidated Revenue Account to a Treasury sub-head of expenditure. These are shown on (1) (*a*) of the Table. For a true picture of expenditure on recurrent account, given in row (1) (*b*), these contributions have been deducted. An analysis of the resulting expenditure from 1956 to 1960 is given subsequently (paragraphs 2.7 to 2.9 in this Chapter).

2.3. Development expenditure figures are given in the rows under row (2) of the Table. Colonial Development and Welfare expenditure has been shown separately in (2) (*a*) as it is recoverable from Colonial Development and Welfare grants. Other development expenditure is shown in row (2) (*b*) with a further breakdown of these figures in rows (2) (*b*) (i) for loans to public bodies and (2) (*b*) (ii) for remaining Government development expenditure proper. It was not previously the practice to include in the Development Fund Expenditure estimates, loans given to public bodies such as the Singapore Improvement Trust but to account for them as advances to such bodies. In 1957, however, it was decided that since the advances were not readily realisable, a false picture was presented of the amount and the liquidity of Singapore's reserve balances and it was consequently decided to charge the loans already made to expenditure. This accounts for the very large sum of $181,410,486.34 ascribed to development in 1957 of which $118,658,977.84 was for past loans (including $5,965,160.22 for 1955 and $11,489,465.28 for 1956) and $24,196,828.00 was for loans actually made in 1957. The development expenditure on Government account and paid from Singapore resources is, therefore, that given in row (2) (*b*) (ii) of the Table. The development expenditure figures will be reviewed in the section on Development Expenditure in paragraphs 2.10 to 2.17 which will deal also with the development expenditure on statutory bodies.

2.4. Table 2.2 shows the resources to meet the recurrent and development expenditure set out in Table 2.1. These resources are, in the first instance, the recurrent revenue given in row (1), which in the years from 1955 to 1960 have been sufficient not only to meet recurrent expenditure and the contribution to Development Fund included therein, but even to provide a surplus to be credited to reserves and used to defray any balance of development expenditure still unpaid. For 1955 to 1958 it will be seen that calls have had to be made on reserves, the utilisation of which is reflected in the level of the cash and reserve balances. Of the Special revenues, Colonial Development and Welfare grants, Rehabilitation loan balances, are utilisable for specific projects only and are, for the most part, small sums. In 1959, two loans totalling $40 million were floated, one being a 5½ per cent $25 million loan for eighteen years and the other 5 per cent $15 million

TABLE 2.1

EXPENDITURE 1955 TO 1960

	1955	1956	1957	1958	1959	1960*
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
(1) General recurrent expenditure, of which—	197,911,662 29	222,518,924 09	238,432,454 33	266,900,599 63	253,825,769 10	238,556,815 00
(a) Contributions to Development Fund	20,000,000 00	20,000,000 00	20,000,000 00	36,558,863 60	23,057,613 32	20,000,000 00
(b) Ordinary recurrent expenditure ..	177,911,662 29	202,518,924 09	218,432,454 33	230,341,736 03	230,768,155 78	218,556,815 00
(2) Development Expenditure—						
(a) C. D. and W. expenditure ..	5,613,138 94	1,167,128 11	963,397 06	981,798 74	552,978 62	30,721 00
(b) Other Development Expenditure, of which—	39,903,642 52	32,361,607 13	181,410,486 34	64,579,667 49	23,656,862 79	35,055,868 00
(i) Loans to public bodies ..	(5,965,160 22)	(11,489,465 28)	118,658,977 84	26,573,000 00	7,620,000 00	17,430,000 00
			24,196,828 00			
	(Loans previous	to 1957 shown as	assets and charged	to expenditure only in 1957)		
(ii) Government development expenditure ..	39,903,642 52	32,361,607 13	38,554,680 50	38,006,667 49	16,036,862 79	17,625,868 00
(3) Rehabilitation Loan Expenditure ..	48,867 39	236,983 82	19,829 79	24,024 31	1,550 58	..
(4) Reserve Balances	..	..	..	..	61,813,257 18	72,593,449 00

TABLE 2.2

RESOURCES 1955 TO 1960

	1955	1956	1957	1958	1959	1960*
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
(1) Recurrent revenue, of which— ..	208,833,166 72	230,942,416 87	241,531,064 82	271,361,593 70	274,918,527 09	292,633,853 00
(a) used to meet recurrent expenditure	177,911,662 29	202,518,924 09	218,432,454 33	230,341,736 03	230,768,155 78	218,556,815 00
(b) used for contributions to Development Fund	20,000,000 00	20,000,000 00	20,000,000 00	36,558,863 60	23,057,613 32	20,000,000 00
(c) surplus recurrent revenue ..	10,921,504 43	8,423,492 78	3,098,610 49	4,460,994 07	21,092,758 99	54,077,038 00
(2) Special Revenue—						
(a) grants, C. D. and W. ..	5,249,620 25	1,530,427 20	926,619 17	900,391 97	633,893 62	..
	641,377 94	..	219 60	36,777 89	..	..
(b) Loans—(i) Rehabilitation Loan ..	48,867 39	236,983 82	19,829 79	24,024 31	1,550 58	..
(ii) Other Loans ..	..	..	..	..	39,997,000 00	30,003,000 00
(c) Development Fund Revenue ..	1,430,709 46	1,047,650 60	3,927,052 99	3,404,467 21	1,241,833 66	3,600,000 00
(d) Reserves	9,273,569 38	2,527,164 66	154,421,381 15	10,924,205 80	..	..

* Provisional figures.

TABLE 2.3

RESERVE AND CASH BALANCES 1955 TO 1960

	1955	1956	1957	1958	1959	1960*
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
(1) Reserve Balances—	267,272,418 72	262,408,582 32	103,303,463 96	87,197 97 87	142,244,687 07	242,150,000 00
(a) Surplus Revenue Fund ..	97,886,324 72	96,987,795 18	..	..	..	..
(b) Development Fund	29,224,371 79	18,212,074 11	24,660,965 56	..	47,718,437 67	87,800,000 00
(c) General Revenue	140,161,722 21	147,278,713 03	78,642,498 40	87,197,397 87	62,742,603 80	120,000,000 00
(d) Contingencies	..	..	..	..	4,000,000 00	4,000,000 00
(e) Revolving Advances	..	..	..	..	27,783,645 60	30,350,000 00
(2) Cash balance	7,870,260 11	16,879,874 85	9,566,053 07	11,663,737 70	13,612,836 70	6,521,629 00
(3) Rehabilitation Loan Balance ..	9,721,720 86	9,484,737 04	9,464,907 25	9,440,882 94	9,439,339 00	9,439,339 00

TABLE 2.4

VALUE OF INVESTMENTS 1955 TO 1960

	1955	1956	1957	1958	1959	1960*
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Surplus Fund Sterling Securities ..	35,742,806 36	18,601,951 64	54,294,677 78	70,663,941 04	93,524,577 46	164,207,177 00
Surplus Fund Dollar and Rupee Securities ..	15,245,459 30	14,279,812 06	13,765,254 27	13,820,154 28	14,022,681 60	12,840,713 00
Special Reserve Fund	97,886,324 72	96,917,795 18	..	..	..	..
Development Fund	29,491,533 00	16,477,543 36	30,271,790 61	..	46,124,666 90	84,345,120 00
Total Investments ..	178,366,123 38	146,277,102 24	98,331,722 66	84,484,095 32	153,671,925 96	261,393,010 00

* Provisional figures.

loan for eight years. In 1960 another loan of $30 million, partly at 5 per cent for eight years and partly at 5¼ per cent for eighteen years was floated. The proceeds of these loans appear in row (2) (*b*) (ii) of the Table.

2.5. The figures in Table 2.3 show the cash and reserve balances from year to year. It will be seen from row (1) (*a*) that the Surplus Revenue Fund, which started with a balance of approximately $97.9 million, has now been closed and that the Development Fund and the General Revenue balances have been progressively depleted from year to year until 1959. The fall in reserve fund balances has been most marked in 1957 when loans to public bodies, for reasons previously explained, were charged to expenditure instead of being shown as advances.

2.6. Corresponding to the state of the cash and balance funds, is the market value of the investments held. This is shown in Table 2.4. The correspondence is not exact, as these investments are assets held also against liabilities other than the General Revenue and Development Fund accounts.

ANALYSIS OF RECURRENT EXPENDITURE ON CONSOLIDATED REVENUE ACCOUNT

2.7. The expenditure for the years 1956 to 1960 (the last two years being estimated figures) have been classified according to the economic and functional significance in Table 2.5, 2.6, 2.7, 2.8 and 2.9. The changes in expenditure of each economic and functional class will be readily apparent from a comparison of these Tables.

2.8. For greater ease of reference, Table 2.10 has been devised to give a summary of the main economic categories of expenditure for 1956 to 1960. It should be noted, for the purpose of reconciliation with the Financial Statements and 1959/1960 Estimates, that the contributions to the Development Fund have been excluded from this Table for all years and that Rural Board expenditure has been included for 1959 and 1960.

TABLE 2.10

RECURRENT EXPENDITURE 1956–1960

($ million)

	1956	*1957*	*1958*	*1959**	*1960**
1. Personal Emoluments	95.8	101.3	106.5	120.7	117.5
2. Other Goods and Services for Current Operations	21.0	25.3	25.5	31.0	30.5
3. Transfers to Income Account of Households	19.4	30.6	29.4	32.8	32.9
4. Transfers to Local Government and Public Bodies	30.5	33.4	37.5	33.8	39.4
5. Transfers to Capital Account of Domestic Sector (excluding contribution to Development Fund)	1.1	4.6	4.7	6.2	5.6
6. Financial Claims	11.7	6.1	5.6	6.1	7.0
7. Residual Items (Interest payments, purchase of goods from abroad, capital formation and transfers to abroad)	13.5	8.0	9.8	13.3	12.9
Total ...	192.0	209.3	219.0	243.9	245.8
Defence	10.5	9.1	11.3	9.3	9.5

* From Estimates except for Rural Board expenditure which has been included.

2.9. Comments on each of these economic categories of expenditure are as follows:—

(a) Personal Emoluments

There has been a gradual increase in the cost of wages and salaries of about $5 million per annum. The increase in the estimates for 1959 appears sharp but should properly be compared against the estimate of $123.8 million for 1958. In fact, with the cuts in salaries imposed in the middle of 1959, the final outcome will probably be much smaller. The estimate for 1960 of $117.5 million reflects the salary cuts imposed in 1959. The steady rate of growth from 1956 can be accounted for by the resultant increase in running the social services, particularly in Health and Education. The extent of the increase in the cost of salaries and wages can be gauged by the fact that in 1952, the total cost of Personal Emoluments was $55.9 million and five years later, in 1957, $101.3 million.

(b) Other Goods and Services for Current Operations

This is mainly expenditure on running Government services. A big portion of it includes the costs of general administration and transport, storage and communications which represent about one-third the total expenditure under this classification. The sizable amount is also expended on payments for public utilities services. It will be seen that the estimate for 1959 is $5.5 million above actual expenditure for 1958. The actual increase is expected to be of the same order as that in 1958. The estimate for 1960 is about half a million dollars below that for 1959 which is the outcome of measures to economise on recurrent expenditure where possible.

(c) Transfers to Income Account of households

The rapid increase in expenditure has been mainly due to the sharp rise in payments on account of public assistance, pension payments and compensation for loss of career to expatriate Civil Servants. These three forms of payment represent nearly the whole of the expenditure under this classification.

(d) Transfers to Local Government and Public Bodies

This expenditure is for the running costs of the social services which take the form of grants to various Government-aided schools and hospitals. A large portion of the education expenditure is on salaries and wages of teachers in grant-in-aid schools. For medical services the large increase has been mainly in the provision of running expenses of hospitals and out-patients services. Of the total expenditure the proportion is roughly one-third to a quarter for the health and the balance for educational grants.

(e) Transfers to Capital Account of Domestic Sector (excluding contribution to Development Fund)

Here again the main expenditure is for educational services in the form of transfers to the University of Malaya, the Singapore Polytechnic and lately, Nanyang University. There is also a smaller grant for adult education. The sharp increase after 1956 is because of the large number of students proceeding to the University of Malaya and the contribution to the Polytechnic which got underway after that year.

(f) Financial Claims

These are payments on account of the public debt. They represent the Sinking Fund contributions made annually by Government.

(g) Defence

These expenditures have been excluded from the general table because it is intended to treat them separately. The large expenditure previous to 1958 included the build up of the S.M.F. and the R.M.N. Since, however, the latter had been handed over to the Federation, for 1959 the drop took into account the transfer and provided only for land forces and small auxiliaries in the form of the M.W.A.F. and M.R.N.V.R.

REVIEW OF DEVELOPMENT EXPENDITURE

2.10. In the past the general policy was to finance development from current revenue as far as possible though a Development Fund was created in 1953 for the purpose of "accumulating funds in order to ensure that the Colony will be able to continue with its development plans during periods when current resources prove to be inadequate."

2.11. The total development expenditure for the six-year period 1955 to 1960 was $550.0 million of which the Government spent $191.1 million. Table 2.11 gives the total capital expenditure of Government and Statutory Bodies for the period.

TABLE 2.11

CAPITAL EXPENDITURE 1955–1960

($ million)

	1955	*1956*	*1957*	*1958*	*1959*	*1960*	*Total*
Economic Development—							
Transport and Communications ...	20.1	18.7	17.3	14.2	11.7	15.2	97.2
Public Utilities	24.5	23.3	37.0	33.1	29.8	18.9	166.6
Agriculture and Allied Subjects ...	0.9	0.3	0.7	0.7	0.2	0.1	2.9
Sub-Total ...	45.5	42.3	55.0	48.0	41.7	34.2	266.7
Social Development—							
Housing	13.1	13.3	23.8	22.1	11.0	11.0	94.3
Health	4.7	4.9	5.9	7.6	2.5	0.7	26.3
Education	6.9	7.3	13.7	11.8	3.9	5.1	48.7
General Development and Welfare	12.8	9.6	11.3	9.1	3.9	4.7	51.4
Sewerage	0.3	1.9	5.7	15.1	7.7	9.7	40.4
Sub-Total ...	37.8	37.0	60.4	65.7	29.0	31.2	261.1
Administration—							
Public Works	5.9	4.6	2.2	2.4	2.7	0.7	18.5
Others	..	..	0.8	2.3	0.1	0.5	3.7
Sub-Total ...	5.9	4.6	3.0	4.7	2.8	1.2	22.2
Grand Total ...	89.2	83.9	118.4	118.4	73.5	66.6	550.0

(*a*) It will be noted that about 48 per cent of the total capital expenditure was devoted to economic development—almost entirely to expanding public utilities and improving transport and communication facilities.

(*b*) Out of the expenditure on social development, housing was the biggest item, most of which was the building of low-cost housing.

2.12. Table 2.12 will show that the Government and the City Council together spent about 75 per cent of the money—the City Council spending some $31 million more than the Government.

TABLE 2.12

CAPITAL EXPENDITURE 1955–1960 BY AUTHORITIES

(In $ million)

	Government	City Council	Singapore Harbour Board	Singapore Telephone Board	Singapore Improvement Trust/Housing and Development Board	Total
Economic Development—						
Transport and Communications ...	30.8	12.9	11.5	42.0	..	97.2
Public Utilities ...	..	166.6	..	..	..	166.6
Agriculture and Allied Subjects ...	2.9	..	..	..	..	2.9
Sub-Total ...	33.7	179.5	11.5	42.0	..	266.7
Social Development—						
Housing ...	9.4	1.7	3.3	..	79.9	94.3
Health	25.7	0.6	..	..	..	26.3
Education ...	48.7	..	..	..	..	48.7
General Development and Welfare	51.4	..	..	..	..	51.4
Sewerage ...	..	40.4	..	..	..	40.4
Sub-Total ...	135.2	42.7	3.3	..	79.9	261.1
Administration—						
Public Works ...	18.5	..	..	..	..	18.5
Others	3.7	..	..	..	..	3.7
Sub-Total ...	22.2	..	..	..	..	22.2
Grand Total ...	191.1	222.2	14.8	42.0	79.9	550.0

ECONOMIC DEVELOPMENT

2.13. Nearly half the total amount of capital expenditure was on economic development. This expenditure broadly falls into three groups—Transport and Communications, Public Utilities and Agriculture and Allied subjects.

(*a*) *Transport and Communications*

The three major projects in this group of expenditure were the Paya Lebar Airport, the Merdeka Bridge and the Outer Ring Road connecting the Singapore Harbour Board to the Singapore-Johore trunk road. These projects cost nearly $22 million. The dual carriage ways to Johore Bahru and to Paya Lebar Airport were also completed.

The Singapore Telephone Board spent $42 million providing service for approximately 17,500 additional subscribers including the provision of seven new exchanges and associated underground cables and overhead wires. The Singapore Harbour Board development expenditure was mainly on the building of a jetty, a passenger terminal and wharf extension. Over 1959/1960 more than $5 million was spent on the East Wharf project which is scheduled to be completed in 1962.

(b) Public Utilities

Major development of public utilities was the expansion of electricity and water supplies. Pasir Panjang Power Station was completed and the last three 25MW generators installed during this period. The work on modernising St. James Power Station was completed during this period and cost about $13 million. In addition about $49 million were spent for distributing electrical power throughout the island.

Most of the capital expenditure in expanding water supplies was devoted to increasing the distribution facilities. The only major headworks undertaken during this period was the expansion of the Tebrau Scheme.

For increasing distribution facilities, a number of service reservoirs were built, the most expensive being Murnane Reservoir which cost more than $5 million; the Woodleigh scheme cost about $3 million and the Jalan Eunos Service Reservoir $1.6 million. In addition large sums were spent on supply and distribution mains.

At the gas works, coal burning plants were replaced by oil gas units: this conversion and expansion cost $2½ million.

SOCIAL DEVELOPMENT

2.14. The expenditure on social development reflects the high level of social services provided by Government and Public Authorities.

(a) Education

The total capital expenditure on Education by Government and Public Authorities for the six-year period amounted to $48.7 million. This was expended mainly on the building of schools.

TABLE 2.13

NUMBER OF SCHOOLS BUILT 1955–60

Type of Schools	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*	*Total*
Primary	11	23	19	17	1	2	73
Secondary ...	1	. .	2	6	. .	. .	9
Junior Technical ...	. .	2	. .	. .	. .	. .	2
Total ...	12	25	21	23	1*	2†	84

In addition to this, in 1957 $2 million was contributed to the University of Malaya for capital development. The Singapore Polytechnic was also established at a cost of $8 million.

(b) Health

From 1955 to 1960 the capital expenditure on health services amounted to $26.3 million.

This money was spent mainly in extension to the existing hospitals and in building a new Hospital at Thomson Road. In addition 24 public dispensaries, maternal and child welfare clinics were built.

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* The negligible building programme in 1959 was the result of political changes and the freeze imposed by the new Government.

† In 1960, although only two schools were completed, there were under construction another 12 Primary and 6 Secondary schools. Plans for 3 Secondary Technical Schools were also completed.

(c) *Housing*

Expenditure on housing was the third biggest of all items during the period. It amounted to $94.3 million which was spent as follows by the following bodies:—

	$ million
Singapore Improvement Trust/Housing and Development Board	79.9
Government	9.4
Other Public Bodies	5.0
	94.3

2.15. The Singapore Improvement Trust/Housing and Development Board builds low cost houses to be rented out at low rentals to persons of lower income groups. Buildings by the Government and other public authorities are for institutional quarters.

TABLE 2.14

DWELLINGS COMPLETED IN EACH YEAR 1955–1960

Authority	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*	*Total*
S.I.T./Housing and Development Board ...	2,795	1,275	1,300	3,841	1,517	1,682	12,410
Government ...	575	671	142	288	395	24	2,095
Other Public Bodies ...	62	419	76	64	108	100	829
Total ...	3,432	2,365	1,518	4,193	2,020	1,806	15,334

SOME GENERAL OBSERVATIONS

2.16. The actual expenditure of a number of departments was below targets for which funds had been made available. The main underspenders were in respect of—

	$ million
1. Education	19.1
2. Medical	16.1
3. Land Acquisitions	23.8
4. Others	23.5

One of the main difficulties encountered was in the acquisition of land and the clearing of squatters from land acquired. Amendments to the Land Acquisition Ordinance are being examined to obviate some of the difficulties. Further, there has been an absence of firm long-term planning in the Government. As each project depends on an annual budgetary allocation, no work is started on projects until the budget is approved by the Assembly in December. Consequently plans are seldom ready before the middle of the year. Because of this, work planned for a year is crowded into the second half and targets are not fulfilled. With the creation of a long-term plan frame this kind of difficulty can be avoided.

DEVELOPMENT FINANCE 1955–1960

2.17. The Government's expenditure of $191.1 million was financed mainly from the Development Fund if the contribution to the Development Fund from recurrent expenditure is included. In addition there was considerable drawing on cash reserves of the Government and additional allocation from revenue. There was also nearly $10 million external aid under the Colonial Development and Welfare Act. The City Council financed its capital expenditure mainly by loans though about a third of the money needed came from revenue surplus. The Harbour Board financed its projects from reserve funds while the Singapore Improvement Trust/Housing and Development Board financed its development largely through loans from the Government. The Singapore Telephone Board was able to finance more than half of their requirements from revenue and the rest from Government Loans.

TABLE 2.15

SOURCE OF FINANCE FOR CAPITAL DEVELOPMENT 1955–1960

Source	*Government*	*City Council*	*S.I.T./ Housing and Development Board*	*S.H.B.*	*S.T.B.*
Development Fund Revenue ...	181.3	75.5	3.2	14.8	27.0
Loans ...	...	146.7	76.7	...	15.0
External Aid ...	9.8	...	...	...	...
Total ...	191.1	222.2	79.9	14.8	42.0

SUMMARY

2.18.—(i) Past Government development expenditure has been steadily increasing. Recurrent expenditure also showed steady increases especially in Personal Emoluments and goods and services for current operation. These largely reflect the expansion of social services.

(ii) The total development expenditure for the period 1955–1960 was $550 million, of which the Government and City Council together spent about 75 per cent. About 48 per cent ($266.7 million) of the total capital expenditure was on economic development, almost all of which was for expanding public utilities and improving transport and communication facilities.

(iii) The expenditure on social development reflects the high level of social services provided by Government and Public Authorities. Housing was the biggest item comprising low-cost housing schemes of the Singapore Improvement Trust/ Housing and Development Board.

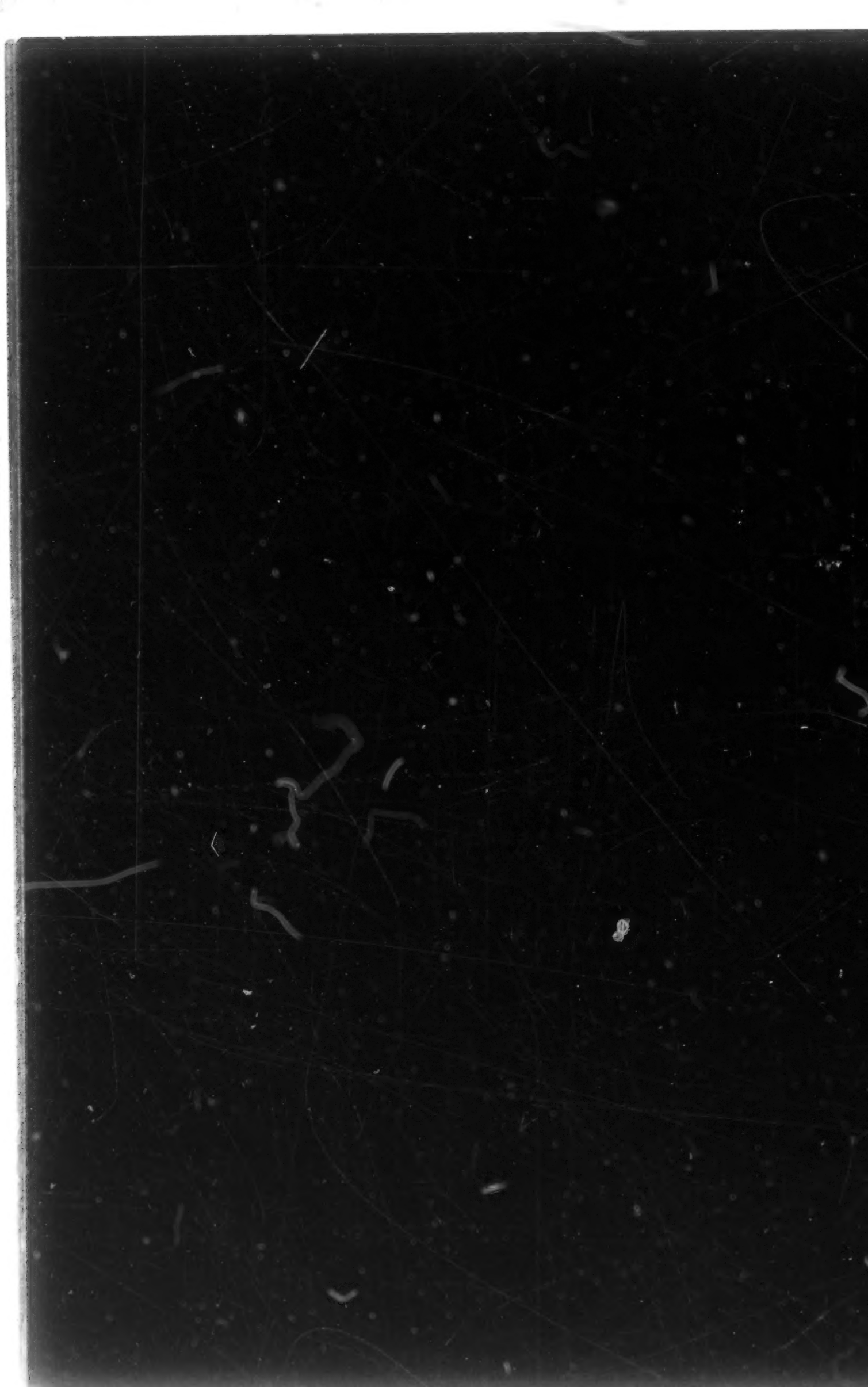
(iv) Capital expenditure on Education during the period was largely for the building of over 80 schools.

(v) Expenditure on Health Services was concentrated on extensions to existing hospitals, building of public dispensaries, maternal and child welfare clinics.

(vi) The Government's expenditure of $191 million on development projects for the period 1955–1960 was financed mainly from the Development Fund which relied on annual contributions from revenue supplemented by drawing on reserves when necessary. About two-thirds of the City Council's capital expenditure of $222 million were financed from loans and revenue surplus contributed a third. The low-cost housing projects were financed largely from Government loans.

(vii) Many departments were unable to meet development targets as reflected in the shortfall in development expenditure each year. One of the main difficulties was the absence of firm long-term planning in the past as well as delays in land acquisition and site clearance.

PART II



CHAPTER III

SUMMARY OF THE PLAN

PRINCIPLES UNDERLYING THE PLAN

3.1. The main objective of the Plan is to expend the resources at the disposal of the Government and other Public Authorities in such a way that it would contribute to increasing employment opportunities for those who would be entering the labour market each year.

3.2. In planning out future governmental expenditure with a marked emphasis on economic development, it is necessary to decide how much of the claims of social services are to be accommodated. Given the country's high rate of population growth, there follows inevitably large and pressing claims for social expenditure, even if it is accepted that the objective of social expenditure should not go beyond maintaining existing levels of social services.

3.3. Ambitious plans for immediate improvement of social services have to be eschewed. Such plans can only be implemented by diverting much of the available capital resources from other even more pressing needs. The most pressing need is to increase employment and consequently national income to match the rapid population growth. Otherwise the time must inevitably come when, through sheer financial exhaustion the extent and quality of public services would have to be run down. The level of social services in a community cannot be divorced from the long-term economic realities for any length of time without inviting a collapse of these services.

3.4. This does not, however, mean that it is either feasible or good economics to run down the existing levels of social services. The position is quite the reverse. There should be improvements in the social services as long as such improvements do not make heavy inroads into the capital resources badly needed for economic development. Consequently, the Plan includes a large number of social service projects which would not only maintain the levels of the services now provided, but also make some improvements.

3.5. Though the Plan is directed to greater efforts on the part of the Government and Public Authorities towards economic development, these efforts are confined to limited fields. The Plan does not envisage the Government becoming the fountain of all industrial development or even the main industrial entrepreneur.

3.6. Because of Singapore's very great dependence on international trade, the Plan recognizes that a very great deal of future industrialisation would have to be left to private enterprise both local and foreign. Government's task in this Plan is mainly to create the conditions which would induce substantial private capital into industries. The extent of Government's participation in industrial enterprises in the Plan is largely limited to the capital of the Economic Development Board which is $100 million for the four-year period.

3.7. The only attraction that private capital has in investments is the profit that can be made. Consequently, creating the conditions conducive to the investment of private capital must mean *inter alia* giving such services as would lower

costs of production. Some costs can be prohibitive if the services required have to be created by individual entrepreneurs. On the other hand, if these services are created for the industry as a whole the costs to individual entrepreneurs may be low.

3.8. Consequently, the Government's contributions to industrial development, in the first instance, is to provide adequate supply of cheap power and water, to lay out industrial estates, which would have these facilities in addition to good communication with the port and to provide good port facilities.

ALLOCATION OF DEVELOPMENT EXPENDITURE

3.9. In accordance with the broad principles discussed above, the allocation of development expenditure to the main groups of projects is as follows:—

	$ m.	%
I Economic Development	507.95	58.32
II Social Development ...	349.88	40.17
III Public Administration	13.19	1.51
Total ...	871.02	100.00

3.10. Table 3.1 shows in detail the estimates of capital requirements of each project within each of the above main groups. The expenditure has been phased over the four-year period by relating it to the needs each project is expected to meet, the particular year in which commencement of the project is most feasible, and the period required for completion of each project. It is envisaged that some projects would not be completed within the Plan period. The phasing of capital expenditure in this Plan has taken this into account and has provisionally allocated capital resources required for completion of certain projects to the year 1965. For implementation purposes, the Plan should be regarded as sufficiently flexible to allow for advancing or retarding any project if changing circumstances require this. The provisional estimates of capital costs are also subject to revisions. New projects could be brought into the Plan either in substitution of or in addition to any existing projects. The Plan is, therefore, not a rigid programme of capital expenditure for the next four years but a necessary basis on which a more detailed capital programme could be formulated from year to year.

ECONOMIC DEVELOPMENT

3.11. The broad group of projects which would directly contribute to the economic development of the country may be sub-divided into three main categories. These, together with their respective claims on development expenditure are as follows:—

	$ m.	%
1. Land and Agricultural Development ...	53.27	10.49
2. Industry and Commerce	337.36	66.41
3. Transport and Communications	117.32	23.10
Total Economic Development	507.95	100.00

3.12. It would be seen that projects for expanding industry and commerce together claim about 66 per cent of the development expenditure allocated to economic development projects. The largest single item is that of $100 million,

TABLE 3.1

DEVELOPMENT PLAN CAPITAL EXPENDITURE ESTIMATES, 1961–1964
(In $ millions)

	1961	*1962*	*1963*	*1964*	*Total*	*Balance required in 1965*
I. ECONOMIC DEVELOPMENT						
1. LAND AND AGRICULTURAL DEVELOPMENT						
1.1 Land Purchases for General Development and Resettlement	3.31	3.00	2.50	2.50	11.31	..
1.2 Swamp Reclamation Schemes	0.20	1.20	1.30	1.30	4.00	0.50
1.3 Flood Alleviation Schemes	2.43	3.52	3.03	2.83	11.81	2.90
1.4 Rural Development Schemes	4.91	8.47	6.64	6.08	26.10	..
1.5 Animal Husbandry and Agricultural Station, Sembawang	0.05	..	..	..	0.05	..
Total: Land and Agricultural Development	10.90	16.19	13.47	12.71	53.27	3.40
2. INDUSTRY AND COMMERCE						
2.1 Economic Development Board	40.00	20.00	20.00	20.00	100.00	..
2.2 Kallang Project	0.50	4.50	20.00	15.00	40.00	3.20
2.3 Jurong Project	1.00	14.00	15.00	15.00	45.00	..
2.4 Land Acquisition for Industrialisation and other development costs for industrialisation	5.60	..	..	..	5.60	..
2.5 Electricity	19.40	11.80	24.42	22.88	78.50	..
2.6 Water	9.10	14.45	16.73	13.95	54.23	10.13
2.7 Gas	1.76	4.72	3.70	3.85	14.03	..
Total: Industry and Commerce	77.36	69.47	99.85	90.68	337.36	13.33
3. TRANSPORT AND COMMUNICATIONS						
3.1 East Wharf Development	6.70	6.00	..	..	12.70	..
3.2 Improvement of Singapore River	2.00	3.70	5.00	5.00	15.70	5.40
3.3 Marine	0.09	0.01	..	..	0.10	..
3.4 Meteorological Services	0.03	0.08	0.03	0.01	0.15	..
3.5 Civil Aviation	4.47	4.08	1.71	0.64	10.90	..
3.6 Telecommunications	3.60	3.00	2.77	3.51	12.88	..
3.7 Roads	3.90	9.30	8.10	8.30	29.60	..
3.8 Drainage	2.19	1.69	1.34	1.32	6.54	..
3.9 Bridges	2.67	2.33	2.90	2.53	10.43	..
3.10 Posts	0.24	0.17	0.29	0.17	0.87	0.12
3.11 Telephone Board	4.89	4.78	4.44	3.34	17.45	..
Total: Transport and Communications	30.78	35.14	26.58	24.82	117.32	5.52
Total: Economic Development	**119.04**	**120.80**	**139.90**	**128.21**	**507.95**	**22.25**
II. SOCIAL DEVELOPMENT						
1. Health	6.12	9.78	7.70	12.20	35.80	..
2. Education	22.04	25.77	25.35	21.32	94.48	..
3. Social Welfare	0.26	0.51	0.60	0.40	1.77	..
4. Housing	34.60	40.70	33.80	44.50	153.60	41.00
5. Sewerage	15.72	12.31	9.83	9.50	47.36	..
6. Community Services	0.57	1.94	2.00	1.56	6.07	..
7. Culture	4.48	4.62	1.60	0.10	10.80	..
Total: Social Development	**83.79**	**95.63**	**80.88**	**89.58**	**349.88**	**41.00**
III. PUBLIC ADMINISTRATION						
1. Police	0.65	3.01	2.28	1.56	7.50	..
2. Prisons	2.12	0.05	..	..	2.17	..
3. Judicial	0.03	..	..	..	0.03	..
4. Customs	0.36	0.41	..	..	0.77	..
5. Vehicles Department	0.10	0.10	0.10	0.15	0.45	..
6. General Improvement to Government Buildings and Quarters	0.63	0.50	0.50	0.50	2.13	..
7. Defence	0.14	..	..	..	0.14	..
Total: Public Administration	**4.03**	**4.07**	**2.88**	**2.21**	**13.19**	..
GRAND TOTAL	**206.86**	**220.50**	**223.66**	**220.00**	**871.02**	**63.25**

phased over the four years which has been provided for the Economic Development Board. This Board would be the instrument of Government's direct participation in industrial activity.

3.13 Public utilities—electricity, water and gas together require some $147 million to be spent over the next four years, of which $78.5 million would be required for electricity projects to meet expanded demand from industries. Schemes for increasing water supply to meet both normal increases in demand and the increase arising from accelerated industrialisation would require approximately $64.4 million, of which about $10 million would probably not be required within this Plan period. Development expenditure for public utilities would concentrate more heavily in 1963/1964.

3.14. Industrial estates development constitutes the next large claim on development expenditure with every possibility of increased requirements once the projects are commenced. The Jurong Project, the largest industrial estate planned has a provisional capital allocation of $45 million. Preliminary surveys of this project indicate that actual requirements would considerably exceed this.

SOCIAL DEVELOPMENT

3.15. Expenditure on social development constitutes as large a proportion as 40 per cent of the total development expenditure in spite of the priority given to industrial expansion. This is indicative of the vast problems posed for maintenance of social services by the fast population growth.

3.16. The three main services directly associated with the heavy demands by a rapidly growing population are health, education and housing. It would be noted that these three items alone claim about $284 million of the $350 million to be spent on social development. The respective claims for social development are as follows:—

	$ *m.*	%
1. Health	35.80	10.23
2. Education	94.48	27.00
3. Social Welfare	1.77	0.51
4. Housing	153.60	43.90
5. Sewerage	47.36	13.54
6. Community Services	6.07	1.73
7. Culture	10.80	3.09
	349.88	100.00

3.17. Housing development alone would require more than 40 per cent of the total sum allocated for Social Development. A further sum of $41 million would be required in 1965 for completion of housing projects commenced in 1964. A housing programme of this order is considered to be essential if the present appalling housing conditions prevalent in the City areas in particular are to be remedied in addition to providing accommodation for the increase in population. The extent of acute overcrowding can easily be seen from the findings of the Social Survey of 1953/54 *Urban Incomes and Housing* which covered households in which no earner has an income of $400 or more living within the City limits of Singapore. Results of this survey in which overcrowding in its various degrees was

given detailed analysis showed that 84 per cent of households covered in the survey occupy accommodation consisting of one room or less.

Past public housing programmes have been on too small a scale to be an effective solution to Singapore's housing problems and it is a matter of Government policy that a major effort must now be made to overcome these problems.

PUBLIC ADMINISTRATION

3.18. Development expenditure for the public administration sector is of a minor order, only 1.5 per cent of total capital expenditure estimates for the entire period. It is likely, however, that there would be some increases when plans for improvement of prisons are formulated on the basis of recommendations by the Prisons Inquiry Commission.

POTENTIALITIES OF CAPITAL RECOVERY

3.19. The effects on the State's finances of the different capital projects would vary according to the potentialities of recoverability of each capital outlay. To assess this, a distinction has to be made firstly between the projects which are self-liquidating and those which are not. Secondly, of those which are not self-liquidating, a distinction has to be made between the revenue-earning group of projects and the non-revenue-earning one. Lastly, of the non-revenue-producing projects, a distinction has to be made between those which would be contributing to increases in national income and those which are charges on Government revenue with remote possibilities of eventual increase in national income, if any.

3.20. Table 3.2 reclassifies the total capital expenditure required for each project during the four-year period on this basis of recoverability potentialities. There are projects which do not clearly belong to any one of the categories, e.g. the rural development projects and projects for cultural development. In the former case, some projects, e.g. markets, would be revenue-earning, while roads, bridges etc. would be indirectly contributing to national income increase but non-revenue-earning. In the case of cultural development projects, commercial television and broadcast would be revenue-earning, while development of museum and national library would be a charge on revenue. In these instances, the project is divided proportionately into the relevant categories.

3.21. Table 3.2 shows that of the $871.02 million total development expenditure, $330.51 million would be spent on self-liquidating projects. This represents 37.94 per cent of development expenditure for the four years and consist largely of the public utilities projects, housing and port development. The next large amount of $176.30 million or 20.24 per cent would be spent on projects which are revenue-earning but not self-liquidating. The proposed industrial estates and communications development fall into this category.

3.22. Projects which constitute a charge on Government revenue without direct recoverability prospects amount to $179.76 million or 20.64 per cent. This is largely made up of development for education, health, other social services and public administration.

3.23. The smaller group of projects which are classified as national income increasing but not directly productive of revenue amount to $84.45 million or 9.7 per cent of the total Development Plan requirements. The remaining $100 million or 11.48 per cent represents a grant to the Economic Development Board.

TABLE 3.2

DEVELOPMENT PLAN ESTIMATES—CLASSIFIED ACCORDING TO REPAYMENT POTENTIALITIES

(In $ millions)

	Self-Funding	*Revenue Earning (but not funding)*	*Non-rev. earning but Nat. Inc-incr.*	*Charge on Revenue*	*Grants*	*Total*
I. ECONOMIC DEVELOPMENT						
1. LAND AND AGRICULTURAL DEVELOPMENT						
1.1 Land Purchases for General Development and Resettlement	..	..	..	11.31	..	11.31
1.2 Swamp Reclamation Schemes	..	4.00	..	..	..	4.00
1.3 Flood Alleviation Schemes ..	..	..	..	11.81	..	11.81
1.4 Rural Development Schemes	..	3.47	21.33	1.30	..	26.10
1.5 Animal Husbandry and Agricultural Station, Sembawang	..	..	0.05	..	..	0.05
2. INDUSTRY AND COMMERCE						
2.1 Economic Development Board	..	..	..	..	100.00	100.00
2.2 Kallang Project ..	..	40.00	..	..	..	40.00
2.3 Jurong Project	..	45.00	..	..	..	45.00
2.4 Land Acquisition for Industrialisation and other development costs for industrialisation	..	..	5.60	..	..	5.60
2.5 Electricity	78.50	..	..	..	..	78.50
2.6 Water	54.23	..	..	..	..	54.23
2.7 Gas	14.03	..	..	..	..	14.03
3. TRANSPORT AND COMMUNICATIONS						
3.1 East Wharf Development ..	12.70	..	..	..	..	12.70
3.2 Improvement of Singapore River	..	15.70	..	..	..	15.70
3.3 Marine	..	..	..	0.10	..	0.10
3.4 Meteorological Services ..	..	..	..	0.15	..	0.15
3.5 Civil Aviation	..	..	10.90	..	..	10.90
3.6 Telecommunications ..	..	12.88	..	..	..	12.88
3.7 Roads	..	..	29.60	..	..	29.60
3.8 Drainage	..	..	6.54	..	..	6.54
3.9 Bridges	..	..	10.43	..	..	10.43
3.10 Posts	..	0.87	..	..	..	0.87
3.11 Telephone Board ..	17.45	..	..	..	..	17.45
II. SOCIAL DEVELOPMENT						
1. Health	..	..	..	35.80	..	35.80
2. Education	..	..	..	94.48	..	94.48
3. Social Welfare	..	..	..	1.77	..	1.77
4. Housing	153.60	..	..	..	..	153.60
5. Sewerage	..	47.36	..	..	..	47.36
6. Community Services ..	..	..	..	6.07	..	6.07
7. Culture	..	5.80	..	5.00	..	10.80
III. PUBLIC ADMINISTRATION						
1. Police	..	..	..	7.50	..	7.50
2. Prisons	..	..	..	2.17	..	2.17
3. Judicial	..	..	..	0.03	..	0.03
4. Customs	..	0.77	..	..	..	0.77
5. Vehicles	..	0.45	..	..	..	0.45
6. General Improvement to Government Buildings and Quarters ..	..	..	..	2.13	..	2.13
7. Defence	..	..	..	0.14	..	0.14
TOTAL ..	**330.51**	**176.30**	**84.45**	**179.76**	**100.00**	**871.02**

RECURRENT EXPENDITURE ON NEW PROJECTS

3.24. Increases in annual recurrent expenditure corresponding to the development envisaged in Table 3.1 are necessarily difficult to estimate with any degree of accuracy. In many cases it is not possible to separate increases due to new projects from normal increases on existing services. For purposes of this Plan, however, rough estimates, where possible, have been made of additional recurrent expenditure arising from new capital projects in order to have some indication of the cost of maintaining new services. Additional recurrent expenditure is anticipated to rise from $0.3 million in 1961 to $33.3 million in 1964. The main projects contributing to this rise are those of Education, Health, Culture and Public Utilities.

REVENUE EXPECTED FROM NEW PROJECTS

3.25. It is even more difficult to project possible revenue increases due to proposed capital projects than to forecast recurrent expenditure corresponding to the same projects. However, some forecasts of revenue resulting from new projects have been attempted. This is expected to rise from $4 million in 1961 to $19.5 million in 1964. The main contributors to this are the public utilities.

3.26. It has to be noted that revenue expected from major projects of industrial estates development have not been estimated and are therefore not included in the sums mentioned above.

3.27. The revenues which may be expected from the Kallang, Jurong, and other industrial estates projects will be derived mainly from rents and premia on leases and tenancies issued to industrial developers, from rates on developed properties and from wharfage charges and port dues. These revenues, however, would not be expected until towards the end of the Plan period, allowing the first two or three years for acquisition of the sites, clearance and resettlement of occupiers, for development of roads, drains and bridges and for the provision of public utility services. It is tentatively estimated that from 1963 onwards, revenues will increase at the rate of $1 million per year.

SUMMARY

3.28.—(i) The main object of the Plan is to create more new jobs for Singapore's growing population. As such, the emphasis has been on expenditure to promote economic development. Social Services will be maintained at the present level apart from substantial public housing. Increased expenditure on social services is intended to keep pace with population growth.

(ii) Economic development will take 58 per cent of the total development expenditure $871 million. Social development comes next with 40 per cent, of this housing takes by far the largest share, $154 million. Education is next with $94 million.

(iii) More than half of the development expenditure will yield additional revenue. The greater part of this, $331 million will be self-supporting. These are the expansion of power, water, gas, housing and port development. The non-revenue-yielding expenditure, amounts to 21 per cent of the total and includes Education, Health and Social Services. The balance will increase national income through improvements in roads, communications and industrial development.

(iv) The Plan is not rigid and is subject to periodic re-appraisal.

CHAPTER IV

FORECAST OF REVENUE AND EXPENDITURE

Introduction

4.1. The financial position of the Government and Statutory Authorities in the years 1961 to 1964 has been examined in two broad sections. Revenue estimates have been made in the first instance on the basis of the present tax structure and income from services now provided. Estimates where possible were then made for revenue consequent on the capital expenditure proposed in the Plan. In addition to these two estimates, new revenue proposals are being examined, and the preliminary results show that revenue can be increased, if necessary, by a sum that would be between $10 million and $20 million a year.

REVENUE

TABLE 4.1

RECURRENT REVENUE ESTIMATES 1961-1964

(In $ millions)

	1961	*1962*	*1963*	*1964*	*Total*
I.—GOVERNMENT REVENUE[1]					
Income Tax	75.0	77.3	79.6	81.9	313.8
Customs and Excise Duties on Liquors, Tobacco and Petroleum	100.1	102.5	104.9	107.3	414.8
Entertainment Duty	7.7	7.9	8.1	8.3	32.0
Estate Duties	3.2	3.5	3.8	4.1	14.6
Totalisator and Sweepstake	8.0	8.0	8.5	8.5	33.0
Post	14.4	14.7	15.0	15.3	59.4
Telecommunications	4.9	6.0	7.0	7.0	24.9
Rents and Interest	11.5	12.0	12.5	13.0	49.0
Rural Administration	7.5	8.5	9.5	10.5	36.0
Hospital Fees	2.4	2.4	2.4	2.4	9.6
Repayment of Federation Loan	10.0	10.0	..	..	20.0
City Council Integrated Departments	49.2	51.7	54.2	56.7	211.8
Other Revenue	50.9	52.9	54.0	56.2	214.0
Sub-Total I	344.8	357.4	359.5	371.2	1,432.9
II.—STATUTORY BODIES					
City Council—					
Electricity	48.9	52.9	56.9	60.9	219.6
Water	19.6	20.6	21.6	22.6	84.4
Gas	4.9	5.7	6.5	7.3	24.4
Sub-Total City Council	73.4	79.2	85.0	90.8	328.4
Singapore Telephone Board	10.8	11.7	12.3	12.9	47.7
Singapore Harbour Board	52.0	52.0	52.0	52.0	208.0
Housing and Development Board[2]	16.4	20.7	25.3	30.9	93.3
Sub-Total II	152.6	163.6	174.6	186.6	677.4
Grand Total (I + II)	497.4	521.0	534.1	557.8	2,110.3

Notes:—1. These estimates include about $10.5 million p.a. due to *new* sources of revenue.
2. Includes revenue from new housing units planned for 1961–1964.

Income Tax

4.2. It is extremely difficult to estimate revenue from Income Tax, particularly because a very large proportion of taxable income is derived from foreign trade in primary products. Prices for these products, particularly rubber and tin, fluctuate very considerably. Consequently, it is impossible to arrive at any reasonable estimate of levels of income in the years 1961–1964. The method used is a flat increase of $2.3 million each year. Past experience, after making allowance for changes in rates and coverage that have taken place in the past five years, seems to justify this assumption. It is quite possible that improvements in collection resulting from a vigorous policy and increase in the powers of the Comptroller of Income Tax may lead to greater yields from Income Tax than those given in the estimates in Table 4.1.

Customs Duties

4.3. In preparing these estimates, Customs and Excise duties were divided into two groups—one of items that would change significantly due to increase in consumption, and the other, of items which may be expected to remain more or less constant. The group of constant items totalled $9.2 million. The main items in the other group were duty on tobacco, petroleum and liquor. Revenue collection from these items showed the following trends. Though the revenue from tobacco fell by about $3 million from 1958 to 1959, the quantity of tobacco consumed has been rising since the beginning of 1959. The fall in revenue was due to changes in the rates of duty which led to a large switch-over from imported brands to locally produced cigarettes. Consequently, projections of revenue from tobacco duty were made on the assumption that the quantity of tobacco consumed would continue to increase at the rate of 300,000 lbs. a year, giving a revenue increase of $1.9 million at the current rate of duty. Similarly, since 1957 petrol consumption has been increasing at the rate of 600,000 gallons a year, giving a revenue increase of nearly $500,000 a year. Revenue from liquor has been falling from its 1957 peak and in 1960 was at the 1955 level. It has been assumed that this level will continue. In all, the estimates give a $2.4 million annual increase.

Other major items of revenue

4.4. City Council Integrated Departments—this consists mainly of the Consolidated Rate Fund which has been transferred to the Government as a consequence of the integration of the City Council with the Government. It is estimated that a $2.5 million annual growth can be expected if there are no major changes in the assessment rates and the annual assessment value of buildings.

4.5. Other revenue—this is revenue from a number of sources which individually are not significant. Some of this revenue is the result of the new taxes and fees introduced in 1961. It is estimated that a 4 per cent annual growth is not unreasonable.

Statutory Bodies

4.6. The estimates for the Public Utilities Board are based on past increases when the City Council controlled the public utilities. The revenue from electricity sales is expected to increase annually by $4.0 million, water revenue by about $1 million each year and revenue from the sale of gas by about $800,000 a year.

4.7. The Singapore Telephone Board expects to derive $47.7 million in the four-year period. Increases in annual estimates are due to expected increases in the number of telephones in areas where most of the capital expenditure necessary has already been made. The income of the Singapore Harbour Board has declined in recent years. The projection is based on average revenue of the period 1955–1959 with an estimated additional net income of $1 million per year derived from the takeover of Hammer & Co. The revenue of the Housing and Development Board includes rentals of houses to be built in the four-year period 1961–1964.

Revenue from New Projects

4.8. Estimates of revenue resulting from the projects in the Plan have been taken into account so far as possible. Table 4.2 gives a summary of estimates of total revenue for the period 1961–1964.

TABLE 4.2

SUMMARY OF REVENUE ESTIMATES OF GOVERNMENT AND STATUTORY BODIES 1961–1964

(In $ millions)

	1961	*1962*	*1963*	*1964*	*Total*
Revenue from existing sources ..	497.4	521.0	534.1	557.8	2,110.3
Revenue from new projects	4.0	9.0	14.5	19.5	47.0
Total ..	501.4	530.0	548.6	577.3	2,157.3

EXPENDITURE

4.9. In Table 4.3 the estimates of annual recurrent expenditure on existing services are given by economic classification. Defence expenditure has been excluded.

TABLE 4.3

ESTIMATES OF ANNUAL RECURRENT EXPENDITURE ON EXISTING SERVICES

(In $ millions)

	1961	*1962*	*1963*	*1964*	*Total*
I.—GOVERNMENT—(Excluding Defence)					
1. Personal Emoluments ..	152.9	158.2	163.8	169.5	644.4
2. Other Goods and Services for Current Operations.. ..	59.1	60.3	61.5	62.7	243.6
3. Transfer Payments to Income Account of households ..	38.4	38.8	39.7	40.9	157.8
4. Transfers to Public Bodies ..	30.6	31.7	32.8	33.9	129.0
5. Transfers to Capital Account of Domestic Sector (excluding contribution to Development Fund)..	4.1	6.5	6.5	6.5	23.6
6. Financial claims	10.3	10.3	10.3	10.3	41.2
7. Residual Items (Interest payment, Purchase of goods from abroad, Capital formation and transfers to abroad)	14.4	14.4	14.4	14.4	57.6
Sub-Total I ..	309.8	320.2	329.0	338.2	1,297.2

TABLE 4.3—*continued*

ESTIMATES OF ANNUAL RECURRENT EXPENDITURE ON EXISTING SERVICES—*continued*

(In $ millions)

	1961	*1962*	*1963*	*1964*	*Total*
II.—STATUTORY BODIES					
City Council—					
(*a*) Electricity	41.8	42.9	43.9	45.0	173.6
(*b*) Water	16.4	16.1	16.3	16.5	65.3
(*c*) Gas	4.4	4.8	5.2	5.6	20.0
Sub-Total City Council ..	62.6	63.8	65.4	67.1	258.9
Singapore Telephone Board ..	6.5	6.8	7.1	7.3	27.7
Singapore Harbour Board ..	47.0	47.0	47.0	47.0	188.0
Housing and Development Board[1]	18.2	23.2	28.8	34.8	105.0
Sub-Total II ..	134.3	140.8	148.3	156.2	579.6
Grand Total (I + II) ..	444.1	461.0	477.3	494.4	1,876.8

Personal Emoluments

4.10. It is estimated that a total of $644 million will be spent over the four-year period. The rate of increase per annum has been worked out on the basis of an overall increase of about 3½ per cent. This will provide for annual increments, promotions and any minor adjustments in salary scales. The large expenditures will be in Education and Health. The next large spender will be the Police. The rate of 3½ per cent was worked out on the basis of a 10 per cent sample study of changes in the total emoluments of Government servants in December 1959 and May 1960. Adjustment has been made to the result to make it a correct measure of the annual increase in Personal Emoluments.

Other Goods and Services for Current Operations

4.11. It is felt that the rate of growth would be about $1.2 million per annum. This takes into account the expanded Government sector following integration of City Council Departments.

Transfer Payments to Income Account of households

4.12. This item is made up largely of current pension payments, compounded pensions, lump sum gratuity, and Malayanisation compensation payments. The annual increase for items other than Malayanisation compensation is about $1.2 million. The Malayanisation element is a decreasing one which ceases altogether in 1964. Consequently, the rate of increase is very uneven. It also includes $500,000 increase per annum in Public Assistance and Tuberculosis Treatment Allowance payments.

Transfers to Public Bodies

4.13. This item is mainly made up of grants to schools and hospitals. In recent years there was a large increase in expenditure on schools. This was due to the extension of Government-aid programme to Chinese language schools. This extension is now complete and therefore no major increase is anticipated. The growth in this item is estimated to be in the region of 3½ per cent a year.

Note:—1. Includes recurrent expenditure on new housing units planned for 1961–1964.

Transfers to Capital Account of Domestic Sector

4.14. This is mainly expenditure in connection with institutions of higher education. The increase in expenditure in 1962 and after is due to the intended establishment of the University of Singapore.

Financial Claims

4.15. This is the cost of servicing the public debt and the total expenditure will remain constant over the years.

Statutory Bodies

4.16. Projections of expenditure of most of the statutory bodies for existing services show only very small increases. This is due to increases being generally limited to increases in Personal Emoluments. The estimates of increases in annual recurrent expenditure of the trading departments particularly the Electricity and Gas Departments take into consideration existing capital equipment being used to full capacity.

Expenditure Consequent on New Projects

4.17. Annually recurrent expenditure due to the capital projects proposed in this Plan have been roughly estimated. Table 4.4 gives a summary of estimates of total recurrent expenditure during the period 1961–1964.

TABLE 4.4

SUMMARY OF ANNUAL RECURRENT EXPENDITURE ESTIMATES 1961–1964

(In $ millions)

	1961	*1962*	*1963*	*1964*	*Total*
Annual Recurrent Expenditure on Existing Services (excluding Defence) ..	444.1	461.0	477.3	494.4	1,876.8
Annual Recurrent Expenditure on new projects	.3	14.6	24.5	33.3	72.7
Total ..	444.4	475.6	501.8	527.7	1,949.5

SUMMARY

4.18. During the Plan period, revenue for the four years from already existing sources, is estimated to be as follows:—

	$
Central Government	1,432.9
Statutory Bodies	677.4
Income from new projects	47.0
Total ...	2,157.3

Expenditure excluding Defence is estimated as follows:—

	$
Central Government	1,297.2
Statutory Authorities	579.6
Additional expenditure consequent on expansion	72.7
Total ...	1,949.5

There remains a surplus of $207.8. This surplus will be used to meet the Defence expenditure which has not been taken into account so far, partly to meet the increased cost of servicing development loans leaving a residual for development expenditure proper. The financing of development expenditure will be discussed in the next chapter.

CHAPTER V

FINANCING THE PLAN

5.1. In this chapter, it is proposed to bring together all the figures relating to revenue, expenditure and development cost. Both revenue and recurrent expenditure are calculated into two component sections:—

(i) Recurrent amounts based on existing services or tariffs.

(ii) Increases consequent on the implementation of the Capital Programme.

5.2. The figures for revenue are as follows:—

	1961	*1962*	*1963*	*1964*	*Total*
Government ...	344.8	357.4	359.5	371.2	1,432.9
Statutory Bodies ...	152.6	163.6	174.6	186.6	677.4
	497.4	521.0	534.1	557.8	2,110.3
Increases consequent on Capital Programme	4.0	9.0	14.5	19.5	47.0
	501.4	530.0	548.6	577.3	2,157.3

5.3. Projected expenditure (excluding defence expenditure) is estimated as follows:—

	1961	*1962*	*1963*	*1964*	*Total*
Government ...	309.8	320.2	329.0	338.2	1,297.2
Statutory Bodies ...	134.3	140.8	148.3	156.2	579.6
	444.1	461.0	477.3	494.4	1,876.8
Increases consequent on Capital Programme	.3	14.6	24.5	33.3	72.7
	444.4	475.6	501.8	527.7	1,949.5

5.4. Therefore, over the four-year period, it is expected that there will be a surplus of projected revenue over expenditure of $207.8 million:—

	$ million
Revenue	2,157.3
Projected expenditure	1,949.5
	207.8

5.5. From the projected surplus of $207.8 million over the four-year period, the Singapore Government's share of defence expenditure has to be deducted. Total recurrent expenditure for defence services in 1961 is estimated to be $9.7 million. Projections of future expenditure have been made, based on normal increases in personal emoluments, while other expenditure has been held constant.

5.6. In view of the grants towards defence promised by the United Kingdom Government for the years 1961 to 1963 and assuming this assistance would be continued into 1964, the apportionment of defence expenditure between the United Kingdom Government and the Singapore Government has been estimated as follows:—

ESTIMATED RECURRENT EXPENDITURE FOR DEFENCE 1961–1964

(In $ million)

To be met by—	*1961*	*1962*	*1963*	*1964*	*Total*
U.K. Government ...	4.627	4.627	4.627	4.627	18.508
Singapore Government ...	5.073	5.273	5.473	5.673	21.492
Total ...	9.700	9.900	10.100	10.300	40.000

5.7. Thus the projected revenue surplus over 1961–1964 after taking into account Singapore Government's share of the defence expenditure would be as follows:—

	$ million
Revenue Surplus	207.8
Less Defence expenditure ...	21.5
	186.3

5.8. The Treasury has made a comprehensive review of revenue potential. Some of the measures for raising revenue were implemented at the beginning of 1961. Additional measures to be implemented during the Plan period are expected to produce $30 million.

5.9. In addition to the projected revenue surplus, the Government has other sources of finance. In 1959 and 1960, several loans were floated and this would be available for the development programme. Money borrowed has been placed in the Development Fund which, on 1st January, 1961, stood at $87 million. Another source is to run down the Consolidated Revenue Account. Balances are held as reserves to meet current Government expenditure in the course of the financial year should, for some reason or other, expenditure at any time exceed revenue as a result of delays in revenue collection. The Consolidated Revenue Account on 1st January, 1961 stood at $120 million. This amount is much more than is required as a current reserve and $57.2 million may be transferred to the Development Fund quite safely. A sum of $46.5 million has been appropriated from the Consolidated Revenue Account to the Contingency Fund and the Advance Accounts. This amount is not being fully used and may be reduced by $20 million.

5.10. There are also other reserve funds belonging to Statutory Bodies which may be used to finance their development programmes which have been included in this Plan. The City Council Consolidated Rate Fund stands at approximately $32.9 million. The Public Utility Departments of the City Council have built up reserves amounting to some $11 million. The Singapore Harbour Board Reserve Fund could finance the further sum of $13 million required for completion of its expansion programme.

5.11. There is also available the unexpended loan proceeds amounting to $9.4 million, part of which could be used for development purposes. It is estimated that some $7.0 million are uncommitted and may be used for development.

5.12. Under the Currency Agreement entered into by the Governments of the Federation of Malaya, Singapore, State of Brunei, the Colonies of Sarawak and North Borneo, it is possible to invest part of the currency reserves in loans issued by the participating Governments. If the Singapore Government were to avail itself of this source of finance, an amount of $60 million approximately would be available for development finance. Whether this opportunity would be taken depends on a number of considerations as to the future of the common currency. A number of imponderables still remain and it is not proposed to regard this potential source of finance as definitely available.

5.13. In the agreement between the United Kingdom Government and the Singapore Government on financial assistance, Singapore Government have been offered a loan of $43 million and grants for various specific purposes totalling $8.6 million.

5.14. In the calculation of revenue surplus, interest from the investment of $119.9 million (the $87 million from the Development Fund, and the $32.9 million from the City Council Consolidated Rate Fund) was excluded. These investments would be realised during the course of the Plan and used for financing the Plan. As all the investments would not be realised in a lump sum at the beginning of the Plan period there will be sizable interest earnings depending on the phasing of the realisation of these assets.

5.15. For the sake of calculation, it is assumed that a quarter of the sum will be realised at the end of each year. The average earning from investment of these funds is 5¾ per cent per annum. As the level of investments would be falling by $30 million each year, the total interest earned during the four years would be—

$$\$(119.9 + 29.9) \frac{4}{2} \times \frac{5\frac{3}{4}}{100} \text{ million or } \$17.23 \text{ million.}$$

5.16. All the above sources described represent the amount of money already available; it should be emphasised that revenue surplus is based on a number of assumptions as to the future, and projections of this nature must necessarily be subject to a margin of error.

5.17. To recapitulate, the available sources are as follows:—

	$
Net Revenue Surplus	186.3
Additional Revenue	30.0
Central Government—	
Consolidated Revenue Account	57.2
Contingency Fund/Advance Accounts ...	20.0
Development Fund	87.0
Interest not included	17.2
Unexpended loan proceeds	7.0
City Council—	
Consolidated Rate Fund	32.9
Public Utilities Departments Reserve Fund ...	11.0
Singapore Harbour Board	13.0
U.K. Grant	8.6
	470.2
U.K. Loan	43.0
	513.2

5.18. Out of a sum of $871 million representing the total cost of the Development Plan, existing sources amount to $513 million leaving a balance of $358 million to be found elsewhere. The residual item is larger than this because part of the $513 million should be set aside to pay for the servicing of loans. Whether the Government borrows from the local market or from overseas it has to pay interest on these loans as well as build up a sinking fund to meet eventual repayment of these loans.

5.19. From the figures available, it is possible in principle to get details of how much should be raised each year by way of loans. It is doubtful whether this exercise is worthwhile. The phasing of capital expenditure is subject to a margin of uncertainty. Further, it may be necessary to raise loans in the Singapore money market at a steady rate in order to fulfill the amount required for the Plan, even though there is no immediate requirement for the money. The realisation of assets and the utilisation of loan money are inversely related. Consequently, if interest rate payments and other charges are calculated on the assumption that loans would be raised and utilised in four equal parts in the four-year period the variations in actual implementation would be offset by variations in interest earnings by assets realised, i.e. variations in loan charges would be offset by variations in interest earnings referred to in paragraph 5.15.

5.20. It is assumed that 8 per cent of the money borrowed would have to be set aside in order to pay the interest and to create the sinking fund to meet the eventual repayment of the loan. Further the loan would be drawn in four equal parts at the beginning of each year. Under these assumptions, the total amount required for these purposes that have to be credited to the accounts of the four-year period would be 20 per cent (i.e. $\frac{1}{4}$ of loan $\times$ $(32 + 8)\frac{4}{2}$ per cent).

5.21. The total loan required would be $871 million less $470.2 million, less 20 per cent of the loan or $501.0 million. The loan charges for the Plan period would be about $100.2 million. This would leave about $370.0 million for expenditure on the projects of the Plan. If the loan charges are debited to revenue account, then the revenue surplus would be reduced to $116.1 million. The size of loan and the amount for loan charges would be significantly affected if the money available from the Currency Fund or part of it is utilised for development purposes. In view of what was stated in paragraph 5.12, it is proposed to leave this sum out of the calculations given below.

5.22. A substantial part of the loan required will be raised from internal sources. The Central Provident Fund is expected to subscribe $120 million and public subscription to long term and medium term loans in the period is expected to be about $110 million.

5.23. The total amount of finance that can be expected to come from Singapore's own resources would be $591.4 million or more than two-thirds of the requirement. It is therefore, necessary to look abroad for financial assistance. A substantial part of the cost of expansion would come within the eligibility conditions of the World Bank or the Import and Export Bank loans. It may also be possible to obtain finance from other sources which could be arranged by the suppliers of plant and equipment. A figure of $100 million has been entered to represent the total of such finance available.

5.24. The gap between the amount required and the resources so far discussed is $171 million. This gap has to be filled by loans from the United Kingdom. There is already agreement to lend $43 million to meet requirements up to the end of 1962. Further loans would be sought from the United Kingdom in late 1962 or early 1963.

5.25. The sources of financing the Plan are set out in the following table:—

TABLE 5.1

RESOURCES FOR THE PLAN

Internal Sources			
(i) Government—			
Revenue Surplus		$ million 116.1	
Realisation of Assets—	$ million		
Consolidated Revenue Account ...	57.2		
Contingency Fund	20.0		
Development Fund	87.0		
Unexpended Loan Proceeds	7.0		
Interest	17.2		
		188.4	
Loans		230.0	
(ii) Statutory Bodies—			
Consolidated Rate Fund	32.9		
Public Utilities Departments Reserve Fund ...	11.0		
Singapore Harbour Board Reserves ...	13.0		
		56.9	
Sub-Total ...			591.4
External Sources			
(i) United Kingdom—			
Exchequer Loans—			
Negotiated	43.0		
To be negotiated	128.0		
		171.0	
Grants		8.6	
(ii) World Bank and Other Loans		100.0	
Sub-Total ...			279.6
Total ...			871.0

5.26. The financing of the Plan can be summarised as follows:—

	$ million
Grants	8.6
Revenue Surplus	116.1
Realisation of Assets	245.3
Loans	501.0
Total ...	871.0

SUMMARY

5.27.—(i) Estimates of future recurrent revenue and expenditure indicate that in the Plan period there would be a revenue surplus of $186.3 million. Additional revenue measures are expected to yield another $30 million.

(ii) Increased loan charges which have to be met would be in the region of $100.2 million. Net revenue contribution to development would therefore be $116.1 million.

(iii) Other resources for the Plan include existing balances in the various Funds of Government and Statutory Bodies which amount to $245.3 million.

(iv) Internal loan subscriptions are expected to amount to $230 million of which $120 million would be from the Central Provident Fund.

(v) Internal sources for financing the Plan would, in all, amount to about $591 million which is more than two-thirds of total capital requirements.

(vi) External financing required for the Plan would be in the order of $279.6 million of which loans and grants from the United Kingdom have been provisionally estimated at $179.6 million. Of this sum, exchequer loans of $43 million and grants of $8.6 million have already been promised.

(vii) A gap of $100 million has to be filled by loans from other external sources, possibly the World Bank.

(viii) Total loan financing (internal and external) would amount to about $500 million.

CHAPTER VI

CONSEQUENCES OF THE PLAN

ECONOMIC SETTING OF THE PLAN

6.1. In assessing the probable consequences of the Development Plan, we must pay regard not only to the content of the capital expenditure programme, but also to the economic setting in which the Plan has to be implemented. The earlier chapters discussed the salient features of the economy of Singapore and the broad objectives which the Plan attempts to achieve. It is necessary to say something as well about the financial structure of our economy, that is to say, the principal financial institutions through which the Government expects to obtain the major part of the resources to meet the cost of the Plan.

6.2. This is a matter of some significance because it is in this regard that the setting differs markedly from those of many other countries in Asia which are also aiming to achieve accelerated economic development through some form of Government plan. The essential difference lies in that the capital expenditure envisaged in this Plan must be drawn against real financial resources available. This follows from the currency and banking system of the country. Singapore shares its currency under a common agreement entered into by the Governments of Singapore, the Federation of Malaya, Brunei, Sarawak and North Borneo. A new agreement operates as from 1st January, 1961 which, while making changes in detail, preserves the essentially automatic convertibility of the currency into sterling. While a part of the currency reserves are to be permitted for local investment, it will be a feature of any future currency agreement that sufficient reserves should be held in overseas securities to allow for the continuation of free convertibility into sterling.

6.3. A currency system of this kind, together with the absence of a Central Bank, rules out any possibility of meeting the cost of development expenditure by means of continuous deficit financing through Government loans from the Central Bank.

6.4. There are both advantages and disadvantages to this limitation. It is not necessary to enter into the arguments here. We need only draw attention to the fact that, given the present financial institutions, capital development is possible only if there are real savings originating somewhere within or without the country to pay for such capital expenditure.

6.5. This would mean that, by and large, there would not be any long-term economic disequilibrium generated by the development programme such as happened in some countries where financial inhibitions are less rigorous. The implementation of the Plan would not therefore create any balance of payment difficulties with its concomitant need to regulate imports and restrict foreign exchange payments. Where economic troubles arise, these will take the form of a reduction of income from external sources, e.g. from foreign trade, and this will adversely affect the Government revenue and hence, the ability to achieve planned capital expenditure unless external aid could be forthcoming.

6.6. Nevertheless, it cannot be taken for granted that development expenditure on the scale envisaged in the Plan will not create temporary stresses in the economy unless precautionary measures are taken in advance. We shall deal with this subject at a later stage.

6.7. The Plan envisages investment in the public sector within the Plan period of $871 million. The corresponding amount in the four years 1956–1959 was about $394.2 million. There is, therefore, a substantial increase envisaged in the rate of capital formation in the public sector. The average rate of annual increase is some $122 million.

6.8. In order to view the aggregates of public investment in their proper proportions, we shall try to relate the experience in the years 1955–1959 of public investment against the total value of gross domestic capital formation. Estimates of capital formation for 1960 are not yet available.

TABLE 6.1

GROSS CAPITAL FORMATION, 1955–1959
(In $ million)

	1955	*1956*	*1957*	*1958*	*1959*	*Total*
	$	$	$	$	$	$
Retained Imports of Machinery and Equipment	84.1	97.8	121.9	109.9	69.4	483.1
Local Production of Machinery, Equipment including Ships and Other Vessels	1.6	2.3	1.6	2.3	0.7	8.5
New Buildings and Public Works	103.0	95.1	123.4	131.3	74.3	527.1
Others, i.e. Animal Husbandry and Capital Sunk in Estates ...	6.8	1.2	5.8	5.5	1.3	20.6
Total Capital Formation ...	195.5	196.4	252.7	249.0	145.7	1,039.3
Public Investment ...	89.2	83.9	118.4	118.4	73.5	483.4

The estimates of gross capital formation are derived from import figures of capital goods and information on local production of machinery, vehicles and construction material. The estimate of capital formation in the public sector is obtained from the financial accounts of Government and Statutory Authorities. It should be noted, however, that the figures for public investment are slightly under-estimated due to the fact that certain items which should go into gross domestic capital formation were entered in Government accounts as recurrent expenditure. These are certain "Special Expenditure" items not included in the Government Development Budget. The figures for these varied between $2.6 million in 1957 to $6.8 million in 1956 and are small in comparison to the total.

6.9. For the years 1955–1959, gross domestic capital formation totalled just over $1,000 million, while investment in the public sector was nearly $500 million. Therefore, about half the value of gross domestic capital formation took place in the public sector.

6.10. How do these rates of capital formation compare with national income aggregates? Unfortunately, no reliable estimates of national income had been made for Singapore in recent years. Dr. F. C. Benham made one estimate in 1956 and he arrived at a figure of $1,929 million, representing Singapore's Gross Domestic Product at factor cost.*

* Frederick Benham, *The National Income of Singapore, 1956*, Royal Institute of International Affairs, September 1959.

6.11. It therefore follows that gross domestic capital formation was 10 per cent of gross domestic product in 1956. The percentage for other years probably did not depart much from this figure.

6.12. The Plan envisages an increase in the rate of capital formation in the public sector of about 120 per cent above that undertaken in the period 1956–1959. If, as the Plan hopes to achieve, private investment could be induced to increase at a similar, if not, faster rate, the rate of capital formation would be greatly increased. If investment in the public sector could induce an increased volume of private investment more or less at the rate that public investment is increased, then Singapore's gross domestic capital formation would be of the order of 20 per cent of its gross domestic product.

6.13. Whether or not the rate of capital formation reaches 20 per cent, it would be considerably higher than the levels obtaining in the past years. Even without any substantial increase in private investment, gross domestic capital formation may well exceed 15 per cent of the gross domestic product.

6.14. What would be the consequences of this to the economy? In particular, would it generate a sufficient increase in the growth of national income to keep pace with, and even outstrip, the high rates of population increase? How does the increase in the rate of investment compare with experience in Asian countries in the process of development?

NATIONAL INCOME

6.15. The Economic Bulletin for Asia and the Far East, Vol. 10 No. 1, June 1959, prepared by the Secretariat of the Economic Commission for Asia and the Far East, provides some comparative material in the development plans of several Asian countries. From the figures available, it is apparent that Singapore's objective is not over-ambitious, taking into account the higher *per capita* income of Singapore. Page 39 of the Bulletin shows that while many plans aim to achieve an investment rate of around 10 per cent of the national income, the majority of plans set aside capital formation at around 20 per cent. For instance, the successive five-year plans for India show a regular increase from a 7 per cent rate of investment to a 17 per cent rate. In Indonesia, the rate of investment is to be increased from 6 per cent to 8 per cent in the period 1956–1960 to 20 per cent by 1975. The plans in Japan aim at an investment rate not less than 25 per cent of the national income.

6.16. Is a rate of capital formation approaching 20 per cent of the gross domestic product practical to achieve in Singapore? The answer depends on two factors. First, are the financial resources available adequate? Second, are there the opportunities for profitable investment? As regards the first question, the resources available for public investment have been examined in great detail and the conclusion has been reached that if collections of public revenue in the future come up to expectations and if internal loans are available to the extent forecast, there would be sufficient domestic finance to meet the greater part of capital expenditure, leaving less than a third to be financed from overseas sources.

6.17. Investment opportunities in the public sector are not, for the most part, judged by business criteria of profitability. They are conditioned largely by Government policy and the limiting factor is not of opportunity but resources.

6.18. In the case of private investment, however, both the availability of resources and existence of opportunity are vital considerations. Both are necessary and if one is missing, then private investment would not take place.

6.19. As regards private resources, the answer can be stated quite simply that the rate of private savings is considerably larger than the rate of private investment in Singapore. The difference takes the form of remittance of dividends by foreign companies operating in Singapore, family remittances to India and China, private currency hoards, repatriation overseas of reserve and depreciation funds of foreign companies and their subsidiaries.

6.20. One evidence that private savings are considerably in excess of private domestic investment is given in the E.C.A.F.E. Bulletin referred to earlier. On page 43 of the Bulletin, an analysis was made of the rate of saving for Malaya—Federation and Singapore—during the years 1949-1953. The rate of domestic saving from all sources was given at 19.2 per cent of the national income, of which the greater part was not invested in the country.

6.21. It is not easy to forecast with any accuracy the increase in national income that would result from any given quantum of investment. Nevertheless, empirical studies made in various countries have suggested that a certain stability is observed in the relation between investment and resultant increase in income. This relationship is variously styled as the capital-output ratio or the capital co-efficient.

6.22. Studies in the postwar years show that the co-efficient was found to be in the region of 2.6 for Ceylon, 2.3 for India, 2.3 for Malaya and around 4.7 for Japan. Low values of co-efficients point to either existence of idle capacity or existence of opportunities whereby investment would yield large increases in income as would be the case of certain types of investment in the agricultural sector.

6.23. Where the level of industry is developed or where much of the capital development takes place in the industrial sector, the ratio increases, which means that more capital would be required to produce a given increase in national income.

6.24. The capital-output ratio in Singapore is not known and, indeed, taking into account that the composition of total investments in any one year may markedly differ from another, it is likely that this ratio would be less stable in Singapore than in economies less liable to fluctuations. It is likely, however, that the capital-output ratio would be greater than India, Ceylon or the Federation of Malaya where a large part of the investment goes into agriculture. If we assume some intermediate figure between Japan and the predominately agricultural economies, we may take as a reasonable figure for Singapore, the figure 3 or 3.5. A rate of capital formation of 10 per cent of National Income would not lead to any increase in *per capita* income where the population increases by 3.5 per cent per annum, as is the case in Singapore. A gross capital formation rate of 19 per cent would lead to a 3 per cent increase per annum in *per capita* income, given a capital-output ratio of 3.0. If the capital-output ratio were 3.5, this rate of investment would only achieve a 2 per cent increase in *per capita* income.*

6.25. In general terms, we can therefore say that the rate of capital formation, planned in the public sector would be sufficiently high to allow a growth in *per capita* national income to match, or even exceed, population growth, provided it is matched by a corresponding increase of investment in the private sector. It is unlikely that the current rates of capital formation of around 10 per cent—11 per cent can achieve this.

6.26. It should be stressed, however, that this exercise in the capital-output ratio is no more than a very rough first approximation. The empirical basis for arriving at a co-efficient for Singapore does not exist. Therefore an attempt will be made in a later section to estimate the effect of the Plan on the level of employment.

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* See ECAFE Secretariat, op. cit., p. 37.

INDUCEMENT FOR PRIVATE INVESTMENT

6.27. The inducement to private investment by creating favourable opportunities, which is one of the principal objectives of the Plan, is only partly dependent on the Plan itself. It will be necessary to introduce Government policies such as the expansion of markets, protection against imports of competing goods, exemption from income tax for pioneer industries, aggressive industrial promotion and other measures to bring about the desirable volume of private investment. Nevertheless, the Plan would provide the basic pre-conditions, without which no private investment on any scale can hope to take place. There are items in the plans, such as the expansion of power and water supplies, development of roads, port and communication facilities, preparation of industrial sites and estates and so forth.

CONSTRUCTIONAL CAPACITY

6.28. The immediate impact of the Plan would fall on the building and construction industry. If both public investment and the private investment which it stimulates get on the way, there could be a possibility of inflationary pressure on the capacity of the building and construction industry.

6.29. This difficulty was foreseen by the Government some time ago, and in February of last year, a Commission of Inquiry was appointed to examine the capacity of the building and construction industry in Singapore, and to devise ways by which its current capacity can be continuously assessed in relation to the volume of work handled. The Commission has submitted an Interim Report. In the past few years, building and construction activity of up to $131 million a year had been undertaken without any strain. Evidence produced before the Building Commission suggests that total capacity could well exceed this amount and that the industry could cope with work up to $200 million a year provided it is given time to adjust its capacity.

6.30. At the moment, the construction industry is working at well below capacity. There are two reasons for this. The first is that private building, which was mainly designed for the purchase on the instalment system by the middle and salaried classes, had reached saturation point after about ten years of sustained activity. Large numbers of homes had been completed and not taken up. It is likely that this position will prevail for some time.

6.31. At the same time, in the latter half of 1959 the development programme of the Government was severely curtailed as an economy measure. Bearing these factors in mind, it is possible to proceed with immediate expansion of building activity in the public sector without incurring a risk of creating any inflationary pressure on prices and costs.

6.32. In the long-term, whether inflationary pressure in the industry could be avoided will depend on the system of collection of data on construction activity and capacity which the Government intends to establish, and the efficiency and sensitivity of the reporting system in operation.

6.33. The Singapore Housing and Development Board is carrying out investigations, in conjunction with private building interests, into the possibility of new methods of housing construction using standardised pre-fabricated components. Such a building process, if it is to be introduced, would require a substantial amount of private investment by construction companies and would be justified only if a large and sustained programme of public building is assured.

EMPLOYMENT

6.34. In the context of the population pressure facing Singapore, it is desirable to obtain some estimate of the effect of the Plan in expanding employment opportunities. First, let us outline the magnitude of the problem. In Chapter I, an estimate of the total unemployed in 1959 was given at 46,000. Part of this can be considered to be normal unemployment, consisting of persons moving from

one job to another. This is sometimes termed "frictional" unemployment. Assuming that frictional unemployment is equal to 3 per cent of economically active population, this may amount to some 15,000 persons. The chronic or long-term unemployment—the difference between number of workers and number of jobs—may then stand at some 31,000. In the Plan period 1961–1964, there would be an increase in the number of persons looking for jobs. These are young people entering the labour market. At the same time, people would permanently stop work for a number of reasons, e.g. death, retirement and so forth. Where the first group exceeds the second in number, there will be a net increase in the number of people looking for work. One of the problems in estimating the annual increase in the economically active population is due to the abnormal population growth during the War years which created kinks. Adjustments have had to be made for this. The economically active population for the age group "25 and over" during the intervening years between 1957, 1962 and 1967 were first obtained by fitting a parabolic curve to the three key points 1957, 1962 and 1967, separately for males and females. A separate exercise was then undertaken to obtain the estimates of the economically active population for the two earlier age groups "15—19" and "20—24" for each individual year 1960–1964. It is in these age groups that the abnormally low registered births of the War years would be reflected. The estimates arrived at indicate that the net increase in the number of people looking for work in the Plan period would be 10,400 in 1961, 14,100 in 1962, 14,400 in 1963 and 13,700 in 1964, giving a total of 52,600. If full employment were to be reached by 1964, it is necessary that some 84,000 jobs be created.

6.35. The impact of the Plan on employment falls in three categories. First, there is the additional permanent staff which would be employed by Government and Statutory Authorities as a result of expanding the services offered to the public. Next, there are those employed in construction work. Third, there is the expansion in the private sector induced by the development programme or taking place independently of it. The first two categories of new employment opportunities can be calculated fairly closely. For obvious reasons, a large amount of guesswork is involved in estimating what secondary effects the Plan would generate.

6.36. As regards direct employment in the establishment of the Government and Statutory Authorities, the total additional new employment in all Ministries and Statutory Boards consequent on full implementation of their development programmes will be in the region of 10,300. The Education Ministry will provide the largest number of new jobs, some 4,400. The Police Development Programme envisages an increase in personnel over the four years amounting to 1,700. The Ministry of Health envisages an expansion in its personnel by 2,800 over the four-year period, but in view of the acute shortage of doctors, it is unlikely that the Plan can be fulfilled. Taking into account the possibility of excessive estimates of staff requirements by Ministries and Boards, we may place the additional new jobs at 8,000.

6.37. The second category relates to workers who will be engaged in construction work. This can be sub-divided into (i) construction of buildings and (ii) general construction, e.g. roads, bridges, earth-works, wharves, etc. The total number of workers required in construction work from 1961–1964 in the execution of the Plan has been estimated as follows:—

Year	*Building*	*General*	*Total*
1961	9,100	10,300	19,400
1962	12,200	10,300	22,500
1963	8,900	10,100	19,000
1964	9,300	8,700	18,000
Total ...	39,500	39,400	78,900

As regards construction of buildings, the main demand would come from the Housing and Development Board. They expect, as a result of the new buildings they intend to erect, that the number of workers engaged would increase from 3,100 in 1961 to 5,600 in 1964. The next largest number of workers on buildings would result from the programme of the Education Ministry with some 2,500 to 2,800 workers engaged in the building of new schools.

6.38. As regards general construction, the principal items are construction of roads and bridges and the expansion of sewerage mains. Between them, some 4,000 labourers are expected to be continuously employed. Expansion of the water supply, according to the plans submitted by the Water Department envisages employment of some 2,500 workers. This figure may be unduly high as there is some doubt whether the expansion scheme could be carried out according to schedule.

6.39. Not all the work on the Plan projects will be net additions to jobs in the construction industry as construction work in the public sector is going on continuously. It is estimated that the number of new jobs on construction resulting from operations of Plan projects would be, in the aggregate, between 10,000 to 12,000.

6.40. What about the growth of employment opportunities in the private sector? Census figures on occupations between 1947–1957 suggest that the rate of increase in the number employed in the private sector was of the order of 10,000 a year. It is unlikely that this rate of growth would be sustained in the next four years in the absence of specific measures. It should be remembered that in 1947, Singapore was just beginning to recover from the devastation of the war. The starting point was a low one because of the running down of the economy during the war years and there was hence a greater potential for expansion. Further, the decade 1947–1957 saw two periods of phenomenal economic expansion in 1950–1951 and 1955–1956 generated by the Korean War and the re-stocking boom.

6.41. For this reason, we may expect that the normal growth of employment opportunities in commerce, finance and the service industries would be less than the average for 1947–1957. In the absence of special measures to promote growth and assuming that no serious decline in trade occurs in the meantime, there should be an additional 20,000 jobs available as a result of normal growth between 1961–1964.

6.42. The expansion of employment under consideration can be summarized as follows:—

(i) Additional employment in the public service	...	8,000
(ii) Additional employment in public construction	...	12,000
(iii) Additional employment due to normal growth	...	20,000
Total	...	40,000

6.43. As against the total of some 40,000 new jobs, we have an estimated chronic unemployed of 31,000 with 52,600 net additions to the labour force, giving a total of 83,600. The conclusion therefore emerges that without specific measures to stimulate the growth of employment, there will be no significant reduction in the level of unemployment in 1964 in spite of the substantial outlays which the Development Plan envisages.

6.44. The unemployment figure by 1964 will, in fact, be larger than that now obtaining, taking into account the 40,000 new jobs that are expected to be available as against 52,600 net additions to the labour force.

6.45. The solution to the problem of unemployment lies in industrialisation. The United Nations Industrial Survey Mission, headed by Dr. A. Winsemius, in outlining the industrialisation programme for Singapore, estimates that under conditions of "maximum acceleration", it may be possible to provide for an additional 30,000 new jobs in the period 1961–64. If, therefore, the State of Singapore mounts this maximum effort, it may just be possible by 1964 to achieve a solution to the problem of unemployment. But it should be stressed that this solution consists in inducing a sufficient volume of private investment in new industries which could absorb the larger labour force. As has been said before, the purpose of this Plan is to spark off an increase in the rate of private investment. But the dimensions of the problem should not be allowed to be ignored. To provide for 30,000 new jobs in industry requires a capital investment of something like $600 million, if we take a ratio of $20,000 a job. Private investment of this magnitude has never been achieved in the history of Singapore and this is what we must do to bring about a state of nearly full employment at the end of 1964.

* over & above the 20,000 estimated for "normal growth"

CONCLUSION

6.46. The progress of the Plan depends basically on whether or not revenue expectations would be realised. In a trading centre such as Singapore, the answer to this question really depends on factors that are beyond the control of the Singapore Government as the level of trade is affected not only by world economic conditions but also by the political situation of Singapore's immediate neighbours. Provided a severe world recession does not set in, and provided the political and economic stability of Singapore's neighbours can be maintained, there is every hope that the economy could maintain its present rate of progress to enable the revenue forecasts to be realised. In the event, however, that shortfalls of revenue develop in the future, it will be necessary to revise the development programme either by omitting items which do not contribute directly to the growth of national income or by deferring such expenditure to more propitious times.

6.47. There is therefore some flexibility in regard to both the gross totals of planned capital expenditure and the components within it, and in the state that the economy of Singapore finds itself, this flexibility of approach is unavoidable.

6.48. It is therefore true that the Plan can, and probably will be changed in the future, both in detail as well as in total amounts. These changes may be dictated either by economic necessity or as a result of further detailed studies of those projects whose examination has commenced only in recent months. But whatever the future of the Plan, it remains that today Singapore stands in a transitional stage of economic development. Because of population pressure, and because of the political demands of a democratic system, it is no longer possible to allow the economy to run itself in a completely laissez-faire system. It is necessary at this stage to ensure that the transition of Singapore from a predominantly commercial centre into an important manufacturing economy takes place smoothly and efficiently. The final test of the success of this Plan in the next four years lies in its contribution to this process of Singapore's economic evolution.

SUMMARY

6.49.—(i) Singapore's currency system rules out deficit financing as a means of financing the Development Programme. Capital expenditure envisaged in this Plan must therefore be drawn against real financial resources available.

(ii) For the years 1955–1959, gross domestic capital formation totalled just over $1,000 million with investment in the public sector claiming about $500 million.

(iii) The Plan envisages investment in the public sector amounting to $871 million. There is thus a substantial increase (about 120 per cent above that undertaken in the period 1956–1959) in the rates of capital formation in the public sector, the average rate of annual increase being some $122 million. Future capital formation is therefore expected to be of the order of 20 per cent of gross domestic product.

(iv) In general terms, the rate of capital formation planned in the public sector would be sufficiently high to allow a growth in *per capita* national income to match population growth provided there is a corresponding increase in investment in the private sector to match the rate of increase in public investment.

(v) Investment opportunities in the public sector are conditioned largely by Government policy whereas in private investment business criteria are operative. The existence of both resources and good investment opportunities are vital for private investment.

(vi) The immediate impact of the Plan would fall on the building and construction industry. In the past few years, building and construction activity of up to $131 million a year had been undertaken, but evidence produced before the Building Commission suggests that the total capacity of the industry could cope with work up to $200 million a year.

(vii) The number of chronic unemployed has been estimated at 31,000. In addition, there would be some 52,600 net additions to the labour force during the Plan period, giving a total of 83,600 jobs required. In contrast, estimates of increases in employment opportunities amount to only 40,000 comprising 8,000 additional jobs in the public services, 12,000 in public construction and 20,000 arising from normal growth of the economy. Without specific measures to stimulate the growth of employment, the level of unemployment in 1964 will not significantly be reduced in spite of substantial outlays which the Development Plan envisages.

(viii) The main solution to unemployment lies in industrialisation. It has been estimated that if "maximum acceleration" in this could be achieved, it may be possible to provide an additional 30,000 new jobs in the Plan period. Much depends on inducing a sufficient volume of private investment in industries.

(ix) Important factors influencing a trading economy like Singapore are beyond the control of Government as the level of trade is affected not only by world economic conditions but also by the political situation of Singapore's immediate neighbours. Any shortfalls in revenue owing to unfavourable levels of trade would therefore necessitate revisions in the Plan both as to the gross capital requirements and the projects within it.

PART III

CHAPTER VII

ECONOMIC DEVELOPMENT PROJECTS—INDUSTRY AND AGRICULTURE

Introduction

7.1. Consistent with the general principle of accelerated industrial development for the State as enunciated earlier in the principles underlying this Plan, much of the State's future resources would be directed to economic development projects which are to be dealt with in this and the following chapter.

7.2. The projects to be discussed in this chapter fall broadly into three main groups:—

(*a*) Schemes for land and agricultural development.

(*b*) Schemes for industrial development which envisage—

(i) the establishment of an Economic Development Board, the functions of which are discussed below.

(ii) specific schemes of industrial site development, namely the Jurong and Kallang projects.

(*c*) Development of Public Utilities—Electricity, Gas and Water for both domestic and expected increased industrial uses.

7.3.—(*a*) Schemes for land and agricultural development understandably have relatively minor importance in the total picture of development as there is no significant scope for agricultural development in this State. It has been recognized however, that balanced growth is obviously desirable and a scheme has therefore been planned for reclaiming swamp land at an anticipated cost of $4.0 million over the period of the Plan to increase the acreage available for farming, fish and prawn culture.

This scheme apart from increasing domestic output of fish, prawns and vegetable would result in more employment both in the fishing and farming occupations as well as in related occupations.

Land development planned would take two main forms:—

(i) Firstly, a total outlay of $11.8 million would be required for flood alleviation schemes all over the island. At present, there are many areas where serious flooding occurs which destroys crops as well as disrupts road communications. Comprehensive schemes for alleviating flooding have been based on expert investigation and findings.

(ii) Secondly, schemes for providing various amenities for the rural areas, namely, lighting, roads, proper drainage and markets etc. have been included under rural development. Though partly social in character, the sum of $26 million which is anticipated to be spent over the next four years on rural development would increase the general well-being and efficiency of the population in the rural areas.

These schemes would be a necessary complement to the anticipated suburban and rural growth resulting from industrial site development in these areas.

(*b*) The specific schemes for industrial site development would be discussed separately below.

(*c*) *Development of Public Utilities*

The public utilities comprise electricity, gas and water. Extensive schemes for developing all three have been planned commensurate with increased demand arising from both the increased requirements of a fast growing population as well as deliberate industrial expansion programmes.

7.4. The three groups of projects are expected to require a total of $146.75 million over the four years with every likelihood of increased financial requirements for electricity projects.

Swamp Reclamation

7.5. About 9 per cent of Singapore Island is tidal swamp land. Some of this land has been brought into use for fish and prawn ponds and pig rearing. However, much of it totalling about 10,000 acres is still unused. Land is a scarce factor in Singapore and therefore it is necessary to reclaim as much of this land as possible. A scheme to reclaim about 4,000 acres of swamp land has been proposed. This scheme will cost $4 million in the period 1961–1964 with another $0.5 million in 1965.

TABLE 7.1

SWAMP RECLAMATION SCHEME

	1961	*1962*	*1963*	*1964*	*Total*	*1965*
	$	$	$	$	$	$
Expenditure ..	200,000	1,200,000	1,300,000	1,300,000	4,000,000	500,000

7.6. The 4,000 acres of reclaimed swamp will be utilised as follows:—

Farm land	1,000	acres
Prawn ponds	1,000	,,
Fish ponds	2,000	,,

7.7. This would give employment to 1,100 fishermen and farmers and about 500 workers in related occupations. The output from farms and ponds is expected to value about $4.5 million at current prices. This would be in the form of 1,200 tons of prawns and 10,000 tons of vegetables. The fish will form the raw material for the manufacture of fish-meal and fertiliser.

7.8. The scheme includes flood reservoirs to hold flood water during high tides. Water from these reservoirs are to be used for irrigating neighbouring high-land farms.

FLOOD ALLEVIATION

7.9. Flooding with serious disruption of road communication is frequent in some areas of Singapore. Occasionally, it does considerable damage to crops and property. These floods occur when heavy rains coincide with high tides and choke the limited channels there are for running off the rain water.

7.10. To solve the problem of frequent floods, three major changes are proposed to the drainage pattern of Singapore. They are (i) the Geylang River Scheme (ii) the Sungei Ulu Pandan-Singapore River Scheme and (iii) the Bukit Timah Canal Scheme (See Map I).

TABLE 7.2

FLOOD ALLEVIATION SCHEMES

Scheme	*1961*	*1962*	*1963*	*1964*	*Total 1961–1964*	*1965*
	$	$	$	$	$	$
1. Geylang	893,000	967,000	..	..	1,860,000	..
2. Sungei Ulu Pandan and Singapore River ..	626,500	550,000	530,000	428,000	2,134,500	..
3. Bukit Timah ..	400,000	1,500,000	2,500,000	2,400,000	6,800,000	2,900,000
4. Bedok	14,000	..	..	..	14,000	..
5. Plant for flood alleviation schemes	500,000	500,000	..	..	1,000,000	..
Total ..	2,433,500	3,517,000	3,030,000	2,828,000	11,808,500	2,900,000

The Geylang River Catchment Area

7.11. Parts I and II of this scheme have been completed. The completed project will drain 2,774 acres of densely populated districts in Geylang Serai, Kampong Tai Seng and Paya Lebar: only the next half of engineering costs is required to end the disastrous floods that have occurred in this area. Large drainage channels, culverts, and irrigation controls have to be constructed and would be completed in the next two years.

The Sungei Ulu Pandan and Singapore River Catchment Area

7.12. The drainage of Queenstown, Alexandra and Tiong Bahru is through the Singapore River which is extremely congested and cannot be improved. This scheme will divert the waters from the top portion of the catchment area through Buona Vista Road so as to discharge it into the Ulu Pandan River. This will reduce the Singapore River Catchment Area by 740 acres. The flow through the Alexandra Canal will also be reduced and this will considerably relieve flooding in the Tiong Bahru and Queenstown areas. The whole of the north of Queenstown will thus be made available for housing development as the water level in the swamps there will then be lowered. This swampy valley is drained to the east and a drain running through it is actually the source of the Singapore River. By draining it west to the Sungei Ulu Pandan the swamp would be dried. A little over $2 million will be needed to change the drainage pattern permanently towards the west.

The Bukit Timah Canal Catchment Area

7.13. Flooding in the Bukit Timah Canal is frequent and a hindrance to traffic along the main traffic artery to the north. Rapid development has been going on in the catchment area of this canal and the discharge or run off water cannot be taken off by the Rochore Canal into which the Bukit Timah Canal flows. Any improvement to Rochore Canal would need vast expenditure and a redesign of the city.

7.14. The nearby Stamford Canal because of its inadequacy causes flooding of the Orchard Road area. No improvement of the canal is economically possible. The Sungei Whampoa floods Thomson Road. A scheme of four parts has been designed to alleviate flooding in the areas mentioned.

7.15. First, a diversion channel would be constructed from Bukit Timah Canal which will bring its waters to the Kallang River. The Whampoa could then be deviated into this diversion channel. Third, an underground culvert from Stamford Canal will take its waters north of Scotts Road to Newton Circus and from there to the diversion channel. Lastly, Bukit Timah Canal itself will have to be altered in order to cause its waters to flow into the diversion channel and not to Rochore Canal which can then take care of local drainage. This comprehensive and unified scheme, costing $6.8 million will solve the floods in these areas.

RURAL DEVELOPMENT

7.16. The Master Plan which lays down the overall pattern of land utilisation envisages the decentralised future development of residential and industrial areas. At present, about two-fifths of the population live in rural areas where a considerable number of industries are located.

7.17. With expanding population and industrial activities, this shift to rural areas will be accelerated. In order to service the population and industries now in these areas and in anticipation of the shift that is likely to take place, the Development Plan includes a number of projects.

These are classified and planned as follows:—

TABLE 7.3

RURAL DEVELOPMENT PROJECTS

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Roads	3,248,000	5,770,000	5,000,000	4,964,000	18,982,000
2. Improvement to Bridges	70,000	50,000	50,000	10,000	180,000
3. Markets	60,800	135,000	180,000	195,000	570,800
4. Community Amenities ..	240,000	580,000	360,000	110,000	1,290,000
5. Electricity and Water ..	500,000	930,000	750,000	700,000	2,880,000
6. Drainage	270,000	800,000	300,000	100,000	1,470,000
7. Bedok Water Supply ..	20,000	..	..	..	20,000
8. Other Rural Development	500,000*	200,000	..	..	700,000
Total ..	4,908,800	8,465,000	6,640,000	6,079,000	26,092,800

Roads (See Map II.)

Main Roads

7.18. The most expensive road scheme, costing over $4 million, is the extension of West Coast Road and the construction of bridges up to Boon Lay Road. Western Singapore is at present linked up to the city centre through Bukit Timah Road. Congestion here will be more acute as more rural areas develop. A shorter route to the harbour and city will be made possible through this scheme. Boon Lay Road joins Jurong Road and so access can be made to many western districts. The road will also open up the west coast and encourage development along the Jurong River.

* Includes provision of $34,000 for Water Supply at Pulau Tekong.

7.19. Next is the building of a road to join Tanah Merah and Bedok. This will complete the east coast road by filling in the gap of about four miles, which was not hitherto developed because of swamps. This will relieve some of the heavy traffic on the Changi Road and will cost $2.2 million.

7.20. Certain stretches in a number of roads have to be reconstructed, re-aligned or widened, e.g. Alexandra Road, Ayer Rajah Road, Clementi Road and Pasir Panjang Road. Some rural and kampong roads have to be repaired and made up. A roundabout is also needed at Woodlands. These schemes are expected to cost about $10 million.

Link Roads

7.21. Four link roads have been planned. These link up the roads which radiate from the City centre, opening up the areas in between and also providing relief to the traffic load on the main roads. With development going on in various parts of the island, it is necessary to link up these developed areas with one another and with the City.

7.22. One major link road proposed is between Braddell Road and Serangoon Garden Estate. This will cost about $1,000,000 and will provide a shorter route for the 10,000 living in the estate in addition to relieving congestion on the Tampenis and Upper Serangoon Roads.

7.23. A second link road will link up Yio Chu Kang and Serangoon Road and provide relief to the junction nearby. This scheme will cost nearly $1,000,000.

7.24. The two other link roads will link Jurong Road with Chua Chu Kang Road and West Coast Road. The whole of Western Singapore will thus be properly served. Existing roads run west-east and these link roads are on a north-south alignment. Together with the scheme for main roads, this scheme will make it possible for traffic to move from the north-west to the south-east without using Bukit Timah Road as at present. This road development is vital to the development of Western Singapore as it would not only link the western part of the island more directly with the city and the port but would also give an internal road structure essential for its development. These two link roads would cost around $4.6 million.

Construction of buildings, etc. (Markets)

7.25. The construction of public markets, hawkers' pitches, etc. is needed at five newly developed housing areas at Sembawang Hills Estate, Thomson Road (5¼ m.s.), Changi Village (14¼ m.s.), Opera Estate and Seletar Hill Estate. Each of these housing areas will have a population of several thousand when completed. Each market will cost $65,000 to construct but the cost of land acquisition will vary from $10,000 to $50,000.

Beach Resorts, Swimming Pool and Playgrounds

7.26. The resorts at Pasir Ris and Changi have proved popular and $100,000 is needed for improvements and extensions there. A new resort is planned at Tanjong Irau, off Sembawang Road (14¼ m.s.), costing $350,000. Playgrounds cost $40,000 and a swimming pool at Bukit Batok off Bukit Timah Road will cost $750,000. This will serve the growing residential and industrial area sited at the junction of Bukit Timah and Jurong Roads and will be the first pool built in the rural areas.

Extension of Electricity Supply and Water Mains

7.27. The installation of street lights and the electrification of populated kampongs will cost over $1.8 million. Street lights are required along certain major roads and along the New Airport Road. A number of smaller roads and housing estates will have street lighting installed.

7.28. The Rural Board estimates spending $250,000 to assist poor areas to get electricity where the City Council cannot recover the capital cost in 5 years. The contribution is 35 per cent of capital costs. These schemes for public street and kampong lighting are supplementary to schemes within the City area included in the capital programme for electricity expansion which will be subsequently described.

7.29. Water mains will be laid in 13 areas and the cost of about $0.8 million is actually 60 per cent of the cost of mainlaying, to be paid by the Rural Board. This is an essential service which must be provided to rural areas.

Improvements to Drainage Schemes in Rural Areas

7.30. This project involves the regrading, construction, straightening and widening of drains in densely populated areas where flood risk and damage to human property have been experienced. Streams and culverts have to be adjusted, rivers deepened and widened, a concrete outfall and two tidal gates provided.

ECONOMIC DEVELOPMENT BOARD

7.31. In the past, Government's participation in economic development was limited to the maintenance of security and stability through the enforcement of law and order, the provision of an efficient administration and investment in essential services—power, water, roads, port facilities and the like.

7.32. In general, these activities of the Government have been in response to the needs of expanding activities of private enterprise. Although the continuation of these governmental activities is of paramount importance, it is felt that rapid industrialisation would not be induced if the Government does not take a much more direct part in the industrialisation of the country.

7.33. In 1957, in order to fill the gap created by Government's passivity, a statutory organisation—the Singapore Industrial Promotion Board—with a nominal capital of $1 million was set up. Both the capital resources and the organisation of this Board were too small to make any impact on the problems of industrialisation. It limited its activities to making small loans to a handful of very small industrial operators.

7.34. Experience gained by operating the Singapore Industrial Promotion Board has shown that if Industrial Promotion is to be successful, an adequate organisation has to be created. The organisation should be more than an industrial loan agency. It should have a core of officers who possess industrial and financial experience. With these officers, the organisation would be able to do much more than wait for potential investors seeking loans to embark on industrial projects. The organisation would be able to plan industrial projects and attract private capital into these projects.

7.35. In order to operate on a scale sufficient to make any impact, it should have much larger capital resources, and greater powers. The Economic Development Board with a $100 million capital in the four-year period is to be the instrument of Government's direct participation in industrial activity.

7.36. This Board, in addition to giving loans on favourable terms where the industrial projects would result in advantages to the general programme of industrialisation, could also participate in industrial projects planned by the Board or by private enterprise by subscribing to their share capital.

7.37. The legislation necessary for setting up this Board is being drafted, and action has been initiated to recruit the top personnel through the World Bank. With the successful recruitment of expert personnel, the Board is expected to be in operation by the end of 1961.

KALLANG SWAMP PROJECT

7.38. The Kallang Swamp is a group of contiguous patches of tidal swamp spread out at the confluence of the Kallang and Whampoa Rivers behind the narrow estuary of the Kallang River. Fringed by temporary residential settlements, several saw-mills and some industrial premises, the swamp extends for over a mile inland and is just as broad where it is widest. Altogether a total of 1,035 acres, located close to the city, lies under water which has collected in this lowlying stretch. Three catchment areas (the principal ones including MacRitchie and Peirce Reservoirs) totalling 12,000 acres drain into the swamp accounting for its present state.

7.39. Land is urgently needed by the State for new industries, especially land valuable in location and in this respect the Kallang area stands out. The site is ideally suited for access by sea and river and on land it forms a significant gap between the heavily populated and developed City and Geylang residential areas. In 1954, the Master Plan team realised its potentialities as Kallang is the biggest single stretch of unused land that could be properly developed.

7.40. The present proposals for reclamation have been drafted by the Major Works Branch of the Public Works Department in 1955. Since then, a proposal for the improvement of the Singapore River had been formulated by an *Ad hoc* Committee. The details of this scheme are given in Chapter VIII. There is some possibility of integrating the River Improvement Scheme with the land reclamation at Kallang, which might lead to some saving in the cost of land reclamation. In this section, however, the original plan drawn up by the Public Works Department is presented.

7.41. Briefly, the plan calls first for a survey of soil conditions. This will help in the next stage of filling in the land. Some 12 million cubic yards are required to bring the stable surface up to a reduced level of 107 or 2½ feet above high water on Spring Tides. The ground on which the fill is to be placed is waterlogged and has practically no bearing capacity. This swampy silt should be drained and dried before fitting is placed: otherwise only a small load can be placed upon the surface rendering the area unfit for industrial buildings.

7.42. The best fill material is available from quarries in Jalan Eunos and near the International Airport. In fact, quarrying operations will produce a good area for housing development and make suitable an old quarry area as a village site. Ample material exists. An access road from these sources will have to be constructed to link up with the fill area; heavy earth-moving machinery which constructed the airport are available and they can operate economically at a rate of about 200,000 cubic yards a month. These and other machinery can undertake the huge fill in about 4 to 5 years.

7.43. Drains and mobile pumping units will progressively dry the polders into which the fill area will be divided. The polders will be dewatered progressively inwards from the perimeter of the swamp and the water pumped will be led along in drainage channels to the main Kallang River. Thus the next stage will call for a canalisation of all streams. Earth channels for the permanent River, drainage channels and logging pools will be dredged and the spoil thus obtained dumped in the fill areas. Initially these canals will have earth banks and later when earth consolidation has reached a stage approaching finality, permanent concrete side slabs may be introduced. The majority of the saw-mills operating within this area will be served by the new canal arrangements envisaged: only three which at present do not use river transport have to be disregarded.

7.44. The main headings and their cost in the reclamation scheme are as follows:—

	$
(*a*) Construction of approach road from quarry ...	2,130,000
(*b*) Preparation of polders and pumping	1,984,000
(*c*) Filling	30,000,000
(*d*) Dredging Channels	1,660,000
(*e*) Sheet piles and river walls for channels	7,000,000
(*f*) Surveys, Supervision and Clerical	350,000
Total ...	43,124,000

7.45. If the total is taken as $50 million, so as to include contingencies, the cost per square foot when applied to acres actually filled, comes to about $2.56 per square foot. This will be more than covered by the appreciation of land values when the fill area is well served with roads and canals.

INDUSTRIAL ESTATES

7.46. Among the many factors which Government must consider in its efforts to induce greater industrialisation is the availability of industrial sites. Although there are certain localities in Singapore which are primarily industrial in character, the pattern of development has been haphazard. The intention of the plan for industrial estates is to ensure, through the medium of various schemes and by a conscious effort to group industries into particular areas, that the future location of industry will be more satisfactory than in the past. It is obvious that industrial establishments will gain from this process. The plan for industrial estates is in two parts, one for small-scale industries, the other for large-scale and medium-scale industries.

7.47. There have in the past been two separate schemes put forward by public authorities in Singapore to assist industrial development by acquisition of land, one by the Colonial Development Corporation in the Bukit Timah area, and the other by the Singapore Improvement Trust in the Alexandra and Leng Kee Road areas. From the experience gained in operating these schemes, a number of industrial estates are planned for similar development. One of these, the Redhill scheme, is now proceeding with assistance from Singapore Factory Developments Limited which will be responsible for development of the site and providing completed factory buildings with all necessary services—light, power, water, sewerage—which will be sold on deferred payments over a period of 15 years. The Singapore Government will provide the land, clear it of squatters, and give a lease for 99 years for each industrial plot on payments of premium which may be deferred with interest over the same period of 15 years. Other areas to be developed are:—

Tanjong Rhu; Alexandra Hill; Tanglin Halt; Toa Payoh; Kallang/Serangoon; MacPherson Road; Tanjong Gedong; Woodlands; Jurong.

The Redhill scheme will set a pattern for future development in Singapore of estates for the smaller scale industries. The cost of the small industrial estate is likely to be in the region of $5 million. In view of the nature of these projects it is intended to recover only the bare costs in selling to purchasers.

7.48. Such small-scale industries are necessary to provide work for the large number of unemployed or underemployed in Singapore. But their establishment will from experience be slow and a more massive effort is required to provide a solution to the growing problem of unemployment. The Government is, therefore, attracted to the idea of establishing a basic industry such as an Iron and Steel Plant which will have far-reaching effects on Singapore's economy by the ancillary industries which would spring up with it. A request has therefore been made to the United Nations Technical Assistance Board for a team of experts to report on the feasibility of such a Plant.

JURONG INDUSTRIAL AREA

7.49. To provide a site of about 1,000 acres for the Plant, it is necessary to provide a large industrial estate of about 9,000 acres in the initial stage on the south-west of Singapore Island in Jurong. The site is about 10 miles from the heart of commerical Singapore and less from the Singapore Harbour Board dock area. A plan of the industrial area is shown in Map III.

7.50. It is proposed that in the first phase of the project 8,590 acres will be developed. The area is to be divided as follows:—

	Acres
Waterfront heavy industry	1,710
Light industry or other concerns	960
Residential area	3,350
Shopping area	160
Public service area including Nanyang University ...	310
Park area	300
Green zone including telecommunications area ...	1,800
Total ...	8,590

7.51. The core of the development plan for the area will be the Waterfront Heavy Industrial zone. When this zone is set up, all other zones will be established to complement it.

Lots for factories, wharves, railway, roads, etc. will be planned in detail according to the kind of industry that develops in the area.

Port Facilities

7.52. One of the greatest advantages of a waterfront industrial site is that it can facilitate heavy transportation by sea. Jurong is probably the only waterfront area in Singapore that possesses all the necessary conditions for development as an integrated town with sea access. It will be necessary to arrange to berth ships of draught varying from 40 feet (with 115 ft. beam and 1,000 ft. long) to small coasters of 300 tons, 125 ft. long, 25 ft. beam and 10 ft. draught. The tidal range in the area is a maximum of 11 ft. and normal tidal wharves will be adequate. Tidal flow in the area is probably a maximum of about 1½ knots. The main deliveries to the area are likely to be bulk and transit. A specific design of facilities requires further information of the nature of intended use.

Roads

7.53. The major road network proposed is shown in Map III. As far as possible the network is based on estimated volume of traffic (goods and passenger traffic) between Jurong Town and Singapore City.

Railway

7.54. Cargo transportation by rail would vary according to the type of industry established. The suggested route is shown in Map III. The railway is planned to complement sea transportation since the waterfront heavy industries would be often using sea transportation. The railway has been proposed to pass along the waterfront industrial zone and related industrial zone because it is expected that the railway service will not be demanded for passenger traffic. The entering and waiting lines would be planned by each factory to be established.

Water Supplies

7.55. A 30″ trunk main was designed some years ago to reach the Jurong Road at Lokyang Village from the North. This main could be extended into the area. The existing 6″ main may serve for the preliminary development period. Apart from heavy industry, the daily use should be estimated at about 40 gallons per day per person. For large-scale storage a reservoir has been designed in a suitable valley immediately to the west of the heavy industrial area. This reservoir could be used to deliver water (if required) after pumping to a high tank on an adjacent hill (the highest in the locality) at a pressure of 50 lb. per square inch.

Electricity Supply

7.56. The electricity supply needed would be quite flexible depending on the type of industries that will be established in Jurong. The demand could probably be met from normal sources, but special lines would be required. It may, however, be necessary at a later stage to construct a new power station in the area. Pulau Damar Laut would be suitable as it satisfies the conditions of heavy foundation and waterfront.

Sewerage

7.57. The sewerage works at Ulu Pandan can handle the whole area eventually, but in the early stages a small plant may be required.

Gas Supply

7.58. Gas supply is probably desirable for certain industries as well as for general use. Provisions have been made for gas works to be sited in the area.

Drainage

7.59. The general drainage of the catchment of Jurong has been considered regionally and the location of desirable channels is indicated on the plan. Its final design and execution would depend on the results of a detailed topographic survey.

Reclamation

7.60. In order to fill the lowest lands, it will be necessary to cut down a number of adjacent hills to permit the use of both areas for industry. The bearing capacity of the filled areas will be suspect as the subsoil is generally blue clay and peat. For some industries the cut areas will be specially suitable. Sheet piling along the seafront is required in many places. In others, filling behind normal earth bunds should be satisfactory. Suction dredging should be used to deepen offshore channels and help fill behind the bunds. Deliveries of up to 9,000 feet have been used via floating and shore pipelines.

7.61. There should be no difficulty in arranging facilities for telephone/radio communications. A fast ferry service to and from City (via ports) would be desirable in initial stages and also later on.

7.62. The total cost of the new town can only be estimated after detailed geological and other surveys. A provisional sum of $45 million has been allocated which will be supplemented as development progresses.

7.63. The Jurong industrial town has been planned with the establishment of the Iron and Steel Plant in mind. Singapore's position in the heart of the South-East Asian region with easy access by sea to the iron ores of Malaya, to Indonesian and Sarawak coal, and to North Borneo limestone gives strong hopes that an Iron and Steel Mill can be designed in Singapore which will be competitive not only in the region but even in world markets. Nevertheless, the development of the area is not dependent on the feasibility of the Iron and Steel project, as the Government plans to assume an active role in the industrialisation of Singapore. Other industries which are also being studied—a team from the United Nations Board of Technical Assistance Operations has completed a general industrial survey recently—will find the site equally advantageous. Inquiries which have been made suggest oil refining, aluminium smelting, ship-breaking, shipbuilding (of ships up to 2,000 tons), saw-milling, cement works, textile milling, as possible industries.

ELECTRICITY

7.64. The major development projects of the City Electricity Department, which is the sole supplier of power in Singapore, for the four-year period 1961–1964, are for the construction of:—

(*a*) an additional 25 Mw. steam turbo-alternator to the Pasir Panjang Power Station.

(*b*) a 60 Mw. steam turbo-alternator unit as the first stage of a new steam generating power station, to be sited at Pasir Panjang.

7.65. These two new projects comprise the minimum rate of expansion necessary to cope with the normal load growth in power consumption. For by the end of 1961, anticipated maximum electricity demand will be around 132 Mw., which will exceed the firm generating capacity of 130 Mw. of the two power stations at Pasir Panjang and St. James.

7.66. At Pasir Panjang, the plant comprises six 25 Mw. steam turbo-alternator units and one 2 Mw. gas turbo-alternator house service set, to be used only in an emergency. As it is necessary to put aside one of the six 25 Mw. machines for annual overhaul, and another as standby to ensure continuity of supplies in case of a breakdown in other machines, the firm generating capacity at Pasir Panjang Power Station is therefore 100 Mw.

7.67. The St. James plant consists of six 6 Mw. free piston gas turbo-alternate sets, giving a total installed capacity of 36 Mw. As it is necessary to set aside one set as reserve standby, the firm generating capacity is therefore only 30 Mw.

7.68. While the firm generating capacity remains at 130 Mw., power consumption has risen very rapidly since 1952 when the first machine was commissioned at Pasir Panjang Power Station. Maximum demand has risen from 43.5 Mw. in 1952 to 114 Mw. in 1959, giving an average annual increase in the maximum demand of 10 Mw. approximately. However, as the rate of growth in the past three years has been a little lower, for purposes of projection the increase in maximum demand can be taken to be 9 Mw. annually.

7.69. By projecting the average load growth, it can be seen that maximum demand by the end of 1961 will be 132 Mw., thereby outstripping the firm generating capacity of the two stations.

7.70. Consequently, as a matter of urgency, an extension to the Pasir Panjang Power Station in the form of an additional 25 Mw. turbo-alternator-set, costing in all about $11.1 million, has been approved.

7.71. However, to meet the increase in power consumption in the long term, the City Electrical Engineer has recommended the building of a new power station in four stages, each stage to consist of the construction of a 60 Mw. steam turbo-alternator set. The first stage of this project is expected to cost $33.5 million, of which $32.63 million would be spent in the period 1961–1964.

7.72. A new power station is necessary for at the present rate of growth, peak load demand will be about 162 Mw. by the end of 1964, which will exceed the firm generating capacity of 155 Mw. by then. As it takes about 3 to 4 years to commission a 60 Mw. turbo-alternator plant, it is essential for an early order to be placed for the new machine.

7.73. The increase in maximum demand has been so far based on the present rate of growth in the industrial load which is about 3 Mw. annually. However, in view of Singapore's proposed intensive industrialisation programme, industrial power consumption can be expected to rise more rapidly in the next 5 years. Projection of maximum demand at accelerated rates as a result of industrialisation had been worked out and are shown below.

TABLE 7.4

PROJECTED DEMAND FOR ELECTRICITY 1960–1970

Year	*Ordinary Expansion*	*Accelerated Expansion by which industrial load is calculated at 3 times ordinary (not including domestic)*	*Accelerated Expansion by which industrial load is calculated at 6 times ordinary*
1960 ...	122	122	122
1961 ...	132	138	147
1962 ...	142	154	172
1963 ...	152 (137)	170 (155)	197 (182)
1964 ...	162 (145)	186 (169.5)	222 (205.5)
1965 ...	172 (153)	202 (184)	247 (229)
1966 ...	182 (161)	218 (197)	272 (251)
1967 ...	192 (168)	234 (211)	297 (274)
1968 ...	202 (176)	250 (224)	322 (296)
1969 ...	212 (183)	266 (237)	347 (318)
1970 ...	222 (190)	282 (250)	372 (340)

Note:—The C.E.B. Malaya decided in late 1959 to build a power station at Johore Bahru retaining however the interconnecting lines with Singapore's 22 KV. system. Should they generate their full demand for electricity from 1963 onwards, the original estimated load growth figures will have to be adjusted accordingly, as indicated by figures in brackets.

7.74. It can be seen that if the industrial load growth is calculated at thrice its present rate, it will be necessary to make an additional extension to the Pasir Panjang Power Station in the form of either a second 25 Mw. extension or two 12 Mw. free piston type engines at St. James immediately, for it will not be possible to commission a new power station in time to meet the load. In addition, a second 60 Mw. machine will be needed by September 1967.

7.75. Should the industrial load growth increase to 6 times the present rate, the second 60 Mw. unit will have to be ready by December 1965 (assuming that Johore Bahru will have its own power station), which means that orders have to be placed for two 60 Mw. units straightaway. It is clear therefore that the development proposals of the City Electrical Engineer are the barest minimum which must be undertaken, based on the existing rate of growth in the industrial load. Should industrial load increase to the extent that expansion of generating capacity is necessary, then it would be possible to install:

(*a*) a second 25 Mw. turbo-alternate unit costing about $12 million; and

(*b*) a second 60 Mw. turbo-alternate unit costing $33.5 million.

This would increase substantially the total capital expenditure. A further 60 Mw. unit will result in an increase in capital cost of $33 million, together with another $7 million for the necessary distribution network. The additional costs can be covered, however, by credit from the World Bank, Import/Export Bank, or other sources. It has, therefore, been considered necessary to include only the minimum expansion programme in this plan.

7.76. Table 7.5 sets out in detail the electricity expansion programme of the City Electrical Department for 1961–1964 which is estimated to cost $78.5 million with another $0.9 million in 1965.

7.77. The major capital projects are:—

	$ million
(*a*) Project 3—Pasir Panjang Power Station Extension	11.06
(*b*) Project 4—Proposed 60 Mw. Steam Generating Station (1st Stage)	32.63
(*c*) Project 5—22 K.V.H.T. distribution network	6.67
(*d*) Project 6—6.6 K.V.H.T. and L.T. distribution network ...	18.88
(*e*) Project 7—Proposed 66 K.V.H.T. distribution network ...	5.00
Total ...	74.24

7.78. The projects are revenue-producing and therefore ultimately self-financing.

TABLE 7.5

ELECTRICITY EXPANSION PROGRAMME

Projects	*1961*	*1962*	*1963*	*1964*	*Total*	*1965*
	$	$	$	$	$	$
1. Pasir Panjang 152 Mw. Power Station ..	271,500	..	..	..	271,500	..
2. St. James Power Station Construction ..	985,005	40,284	..	..	1,025,289	..
3. Pasir Panjang Power Station Extension ..	8,661,150	1,917,892	482,379	..	11,061,421	..
4. Proposed 60 Mw. Steam Generating Station (1st stage) ..	..	2,491,714	13,213,285	16,929,540	32,634,539	879,746
5. 22 KV.H.T. Distribution Network	2,434,471	1,595,500	1,356,300	1,287,600	6,673,871	..
6. 6.6 KV.H.T. and L.T. Distribution Network	5,918,288	4,605,550	4,274,950	4,083,350	18,882,138	..
7. Proposed 66 KV.H.T. Network Distribution..	..	500,000	4,500,000	..	5,000,000	..
8. Purchase and installation of meters	583,000	459,000	459,000	486,000	1,987,000	..
9. Erection of light metal construction storage hangars	..	94,409	60,000	40,000	194,409	..
10. Public street lighting* ..	50,000	50,000	50,000	50,000	200,000	..
11. Purchase of light three-wheel vehicles ..	..	13,000	..	..	13,000	..
12. Purchase of Power Station and distribution workshop equipment, instruments, etc. ..	94,600	30,000	20,000	..	144,600	..
13. Thomson Road Stores and Workshop ..	24,800	..	..	..	24,800	..
14. Artizans' Quarters ..	375,000	..	..	..	375,000	..
Total ..	19,397,814	11,797,349	24,415,914	22,876,490	78,487,567	879,746

WATER

7.79. The present works consist of three impounding reservoirs on Singapore Island, namely MacRitchie, Peirce and Seletar; four in Johore, namely Pulai I, Pulai II (or Gunong Pulai), Pulai III and Pontian Kechil; a river intake at Tebrau, filtration plants at Woodleigh, Bukit Timah, Tebrau and Gunong Pulai, and four service reservoirs, namely Pearl's Hill, Fort Canning, Murnane and Jalan Eunos.

The three impounding reservoirs on Singapore Island yield approximately 17 million gallons per day. The four impounding reservoirs in Johore produce approximately 18 million gallons per day. Finally Tebrau River supplies approximately 25 million gallons of treated water per day. Thus the output at present is approximately 60 million gallons per day.

* This project is now part of the Government sector's development programme upon integration of City Council Departments into Government.

7.80. Demand for water has been continually growing. The average consumption in 1959 was 62.5 million gallons per day, and this has been met by adjustments of the supply according to weather conditions. An annual increase in the daily consumption is estimated at the rate of 3.5 million gallons per day. On this basis, about 83 million gallons are estimated to be required per day in 1965. Present water resources available are exhausted. It is necessary, therefore, to have additional sources of supply.

7.81. To provide additional supplies of water, it is proposed to have a new waterwork, the Johore River project, which will, when completed, produce 25 million gallons per day. Pending its completion, it is proposed to have a stop-gap scheme, the Scudai River project by means of which water will be drawn from the Scudai River to meet increased demands, especially during spells of dry weather when the water supply would be in a precarious position. At the same time, it is intended to augment the storage facilities. In this respect, it is proposed to construct the Seletar Dam which will increase the storage capacity of the present Seletar Reservoir. This dam will replace the existing dam which is too low resulting in low storage and less effective utilisation of total rainfall. Further, it is proposed to construct another two Service Reservoirs, one at Telok Blangah and the other at Jurong, to increase storage of treated water to balance the peak and idle low pressures, since the pressure variations in these areas tend to be marked.

Johore River Project

7.82. The intake will be on the bank of the Johore River upstream of Kota Tinggi. The headworks will be near the intake. The pipeline will run west of Kota Tinggi Road from the headworks to Tebrau's Railway Siding. The intake at Johore River will be associated with low level pumping equipment. It will be necessary to construct a treatment works and to install high level pumps and approximately 18 miles of supply mains. The scheme will involve an expenditure of $6.97 million in the period 1961–1964 and a further $3.59 million in 1965 which will be mainly for pipelines.

Scudai River Project

7.83. The intake, treatment plant and pumping station will be constructed on the bank of the Scudai River, and a pipeline will be laid to join up with the existing Gunong Pulai Pipeline.

Seletar Dam

7.84. It is proposed to construct a new dam across Seletar Reservoir in place of the existing one.

Telok Blangah Service Reservior

7.85. It is proposed to construct a reinforced concrete storage reservoir with roof near Mt. Faber.

Jurong Service Reservoir

7.86. This will be constructed at a site between Jurong and Chua Chu Kang Roads. The reservoir will be of reinforced concrete and will have a roof.

7.87. Other capital works in the development programme for increasing water supply would together require about $18.7 million for the four-year period. The main expenditure would be on distribution and treatment works which would require approximately $13.4 million.

TABLE 7.6

WATER DEPARTMENT DEVELOPMENT PROGRAMME

Projects	*1961*	*1962*	*1963*	*1964*	*Total*	*1965*
	$	$	$	$	$	$
1. Johore River ..	3,920,000	4,725,000	8,350,000	6,965,000	23,960,000	3,590,000
2. Scudai River ..	185,000	3,365,000	500,000	..	4,050,000	..
3. Seletar—New Dam and Reservoir	50,000	190,000	2,500,000	2,500,000	5,240,000	3,000,000
4. Telok Blangah Service Reservoir	10,000	800,000	700,000	..	1,510,000	..
5. Jurong Service Reservoir..	..	10,000	750,000	750,000	1,510,000	..
6. Other Capital Works:—						
Administration—Supplies Office	70,000	..	..	..	70,000	..
Collection and Storage—Improvements ..	100,000	90,000	50,000	..	240,000	..
Treatment—Improvements and Additions..	846,350	1,194,000	20,000	20,000	2,080,350	720,000
Pumping—Improvements and Replacements ..	609,700	..	..	..	609,700	..
Supply mains ..	941,357	..	..	..	941,357	..
Service Reservoirs ..	14,000	22,000	..	..	36,000	..
Distribution ..	1,701,000	3,353,000	3,120,000	3,220,000	11,394,000	2,820,000
Waste Detection ..	50,000	3,000	3,000	3,000	59,000	..
Metering	320,000	350,000	380,000	410,000	1,460,000	..
On cost—Staff and Labour	25,500	..	..	..	25,500	..
Departmental Vehicles..	12,000	..	..	..	12,000	..
Operating Plant ..	5,000	5,000	6,000	6,000	22,000	..
Apportionable Sites and Buildings ..	48,630	200,000	200,000	..	448,630	..
Quarters	193,800	145,000	150,000	75,000	563,800	..
Total ..	9,102,337	14,452,000	16,729,000	13,949,000	54,232,337	10,130,000

GAS

7.88. The oil gas production plant consists of three Onia Gagi re-generative catalytic oil gas units, each capable of producing 1,500,000 cubic feet of gas per day. A heavy residual fuel oil obtained at a specially reduced tariff and with thermal conversion efficiency of the order of 76 per cent has enabled manufacturing costs to be reduced. A unique refrigeration system was incorporated in the design of the plant to ensure the complete removal of ammonia and naphthalene. This has improved the purity of the gas distributed and reduced the repair and maintenance requirements on distribution mains and meters. As the steam raising plant installed in 1930 proved incapable of meeting the requirements of the oil gas making plant, new steam raising units of 300 H.P. Cleaver Brooks Packaged Boiler type were installed in 1958.

7.89. Further, as part of the modernising process, a new high pressure distribution ring was completed in 1958 and commissioned in conjunction with two new 100,000 cubic feet per hour gas compressors. This increased gas pressures in areas which had earlier been short of gas during peak periods of demand and also increased the flexibility of the distribution section and its scope for expansion.

7.90. The last available annual figures showed gas manufacture for the year 1959 as 634,000,000 cubic feet, an increase of 4,000,000 cubic feet on the 1958 figure, with consumers increasing by 945 to 15,678. New mains continued to be added. Some 13,996 yards of new mains were added in 1959 and at the end of the year, the total length of gas supply mains was 314 miles.

7.91. The programme further aims:—

(*a*) To increase the area of supply with particular reference to new housing and industrial development;

(*b*) To increase the gas-making capacity of the gas manufacturing plant in order to meet additional loads from both the domestic and industrial market, thus catering for both the growing population the needs of new and expanding industries and the greater popularity of gas as a fuel;

(*c*) The construction of new stores at the gas works to improve storage facilities, both as regards production items and consumer goods, thus resulting in greater efficiency and better service to the consumers;

(*d*) The provision of new quarters at the gas works to provide improved and conveniently located accommodation for the various foremen and oil gas shift personnel who should live adjacent to the gas works rather than in quarters some distance away so that they are easily accessible in times of need.

TABLE 7.7

DEVELOPMENT PROGRAMME OF GAS DEPARTMENT

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
Manufacture	40,000	3,120,000	2,450,000	2,700,000	8,310,000
Distribution	1,343,000	950,000	950,000	950,000	4,193,000
Appliances on Hire ..	380,000	200,000	200,000	200,000	980,000
Stores Accommodation ...	..	200,000	100,000	..	300,000
Staff Quarters	..	250,000	..	..	250,000
Total ..	1,763,000	4,720,000	3,700,000	3,850,000	14,033,000

7.92. The proposals to increase the gas-making capacity of the Department have taken account of current demand for gas with due allowance for increased sales to the Housing and Development Board, industrial concerns, etc.; the proposed increase in capacity is expected to be able to cope with the maximum demand for gas likely to prevail in the period under consideration. Periodic reviews will be made dependent on the actual increase in demand.

SUMMARY

7.93.—(i) Of the total development expenditure of $871 million, Economic Development projects will claim 58 per cent. The projects discussed in this Chapter fall broadly into two main groups:—

(*a*) Land and Agricultural Development projects which will claim some 10.5 per cent of the total expenditure for Economic Development.

(*b*) Industry and Commerce development projects which take 66 per cent of the total expenditure for Economic Development.

(ii) Of the total sum of $53 million to be allocated to Land and Agricultural Development, the largest single item is that of $26 million phased over the four years which has been provided for development of the rural areas. More than half of this would be spent on roads and about $3 million on extending supplies of electricity and water.

(iii) In Industry and Commerce, for which projects about $337 million has been allocated, $100 million has been earmarked for the Economic Development Board which will be the instrument of Government's direct participation in industrial activity.

(iv) Industrial Estates development constitutes the next large claim on development expenditure. The Jurong Project, the largest industrial estate planned, has a provisional capital allocation of $45 million. Smaller estates to be located on various parts of the island have also been planned.

(v) A total sum of $147 million is expected to be spent on extensive schemes for the development of public utilities—electricity, water and gas—to meet increased demands of a fast growing population. Slightly more than half this sum will be required for electricity projects, the major item of which is the proposed 60 Mw. Steam Generating Station.

CHAPTER VIII

ECONOMIC DEVELOPMENT PROJECTS—TRANSPORT AND COMMUNICATIONS

Introduction

8.1. Singapore owes much of its wealth to its strategic position at the cross-roads of international sea and air routes. This 'natural' port of call for ships and aeroplanes has over the years developed excellent harbour and airport facilities which are fully complemented by feeder services, both road and rail which connect it with its nearest trading neighbour—the Federation of Malaya and other countries further north.

8.2. Transport and communication services have developed to the extent of being the greatest single employer of labour in the State. It is realised, however, that these services, good as they may be at present, cannot remain static, but must develop to meet the demands of an expanding economy.

8.3. Singapore's continued reliance on its basic source of prosperity, namely, its function as a great entrepôt, would require large sums to be spent to improve and modernize the present communication facilities. These schemes, when implemented, would serve both trade and industry for which significant expansion is anticipated over the next four years.

8.4. The projects to be discussed in this Chapter cover the entire range of transport and communication services. They could be grouped broadly as follows:—

(*a*) Port Development—East Wharf Project;
(*b*) Scheme to improve water transport for small trading craft which ply between ships and shore—Singapore River Project;
(*c*) Improvement of Meteorological Services;
(*d*) Development of the International Airport;
(*e*) Development of Telecommunication Services;
(*f*) Better drainage schemes;
(*g*) More and improved roads and bridges;
(*h*) More comprehensive coverage of postal services for the island;
(*i*) More comprehensive telephone services for the island, and improved trunk-call facilities to enable a closer link with the Federation of Malaya.

8.5. The details of the above projects for development of both the internal and external network of transport and communications would be discussed individually in the following sections. Total capital expenditure on proposed schemes which fall into this category would amount to about $117.32 million, which constitute approximately 23.1 per cent of the total to be spent on Economic Development Projects for the four-year period of the Plan.

THE EAST WHARF DEVELOPMENT

8.6. The long-term scheme for the development of the East Lagoon provides for the construction of nine new deep-water berths, the dredging of some 2¼ million cubic yards of spoil from the lagoon, the construction of a breakwater and the reclamation of 52 acres of land from the sea.

8.7. The Singapore Harbour Board is proceeding with the East Wharf Project which represents the first stage of this scheme and will yield four new berths, each having a depth alongside of 34 feet at Low Water, in place of the one berth at the existing Wharf which has a depth alongside of 27 feet only.

8.8. This project, which is estimated to cost $13.6 million, includes the following items:—

(i) *Reconstruction of the East Wharf*, i.e. the extension and enlargement of the existing structure on a new alignment, including the provision of four new godowns, fuel oil, diesel oil and water services, and road and railway access.

(ii) *Dredging* of a portion of the East Lagoon sufficient to enable ships to berth at the new Wharf at all states of the tide and, in particular, to manoeuvre into and out of the inshore berth at the new Wharf. The quantity of spoil to be dredged amounts to 800,000 cubic yards.

(iii) *Removal and re-positioning of Hulks*, i.e. to permit the required dredging to be carried out and to maintain the same degree of shelter to the new Wharf during the North-east Monsoon period which the hulks afford to the existing structure.

8.9. The berths to be provided are summarised below:

Berths 550 feet	2
Berths 600 feet	5
Continuous wharf, west side	900 lineal feet 1 berth
Continuous wharf, east side	1,300 lineal feet

8.10. In addition to the constructional costs at an estimated figure of $13.6 million, other ancillary services, such as the provision of an extra berthing tug, cargo-handling equipment by way of forklift trucks, cranes, etc. will be required in connection with the East Wharf Project and it is estimated that the total expenditure will be in the region of $18 million. Work on the East Wharf project has begun since the second quarter of 1959 and by the end of 1960, $5.3 million has been spent. The Project is expected to be completed by mid-1962, so that the expenditure during the Plan period will be the balance of $12.7 million.

IMPROVEMENT OF THE SINGAPORE RIVER

8.11. Singapore River is the main artery of entrepôt trade along which ply some 2,200 specially built Chinese lighters which service coastal vessels anchored in the Outer Roads. About half of Singapore's imports and a third of her exports are transported via the River, providing employment to about 2,000 lightermen and 4,000 stevedores.

8.12. However, as a waterway, the River is congested. River traffic is hampered due to insufficient quay length and difficulty of clearance during both high and low tides. At high water, the River becomes impassable because of the low overhead bridges and at low tide, there is insufficient depth. It is necessary therefore to increase the efficiency of the River as a trading artery. The problems were studied by the Singapore River Working Committee which was appointed in 1953 to recommend measures for the control, maintenance and improvement of the River. The Committee stressed the urgency for action, but little was done as it was felt that the proposed Port Authority should be left to decide when it was established. The proposals of the Committee have been considered and they form the basis of planning.

8.13. The estimated costs of the major works to be undertaken are:—

	$
1. Dredging and deepening river channels ...	2,000,000
2. Sheet Piling and retaining walls	13,750,000
3. Raising bridges	2,200,000
4. Filling and making up quays	1,500,000
5. Purchase of land	1,550,000
6. Alteration of drains and provision of screens ...	50,000
7. Supervision and contingencies	2,175,000
Net Total ...	21,025,000*

Dredging and Deepening River Channels

8.14. Three or four hours are lost by lighters in coming alongside due to the shallow depth of the River at low tide. What is needed is a channel 60′ wide to be maintained at a depth of 10′ at low water throughout the length of the river within Port limits. Depths at present vary from 2½′ to 6′ at low water.

Sheet Piling

8.15. However, such dredging operations will mean the collapse of some River walls which have not been maintained by their private owners. When these walls were first constructed, it was not intended that the river bed should be dredged to give any depth of water during low tide. 50′ to 60′ of piling is required as the subsoil has very low load-bearing capacity. Over 15,000 feet of walls including public quays will have to be reconstructed and strengthened by such sheet piling, before dredging could be done costing $13.75 million. This will be the most expensive item of river development.

Bridges

8.16. Time is lost due to insufficient clearance under several bridges. River craft have to await a suitable state of the tide to be sure of sufficient water to float their craft and for sufficient clearance under certain bridges. Clearances at present are as low as 5′ 5″ and it is necessary that a minimum clearance under all bridges be maintained at 7′ 6″ at H.W.O.S.T. This will also allow dredging under bridges which is at present impossible. A number of bridges will also have to be repositioned when sheet piling is carried out. The cost of reconstructing the four major bridges which span the River is taken into account in section 8.68 (*a*).

Quays

8.17. Quays have to be widened to relieve the congestion of lorries loading and unloading in narrow roads. A minimum width of 60′ is needed for 15,000′ of quay length which can be reconstructed at a cost of $100 per foot.

Purchase of Land

8.18. For this and for sheet piling land has to be purchased. An extension into valuable building lots is necessary to avoid the obstruction of old foundations and rock fill which extends as far as 30′ from the river wall into the channel.

Drains

8.19. The considerable discharge of organic refuse and rubbish causes the present rapid accumulation of silt and detritus. This should be reduced by the alteration of outlet drains so that they do not discharge into the river, hence the provision of pits, screens, and trash racks.

* Excludes item 3 as cost is entered under section 8.67.

8.20. The whole project is urgent as dredging and seawall repairs would become more difficult with the passage of time.

METEOROLOGICAL SERVICES

8.21. The Malayan Meteorological Service is a Pan-Malayan department with its headquarters in Singapore. The headquarters in Singapore is responsible for the administration and co-ordination of Meteorological Services in the Federation of Malaya and Singapore and the participation in the activities of the World Meteorological Organisation.

8.22. With the advent of giant airliners capable of covering great distances between stops and in order to keep up with the standard requirements recommended by the World Meteorological Organisation and the International Civil Aviation Organisation, it is proposed to install and make additions to the following projects in the next 4 years.

TABLE 8.1

METEOROLOGICAL SERVICES DEVELOPMENT PROGRAMME

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Resiting of Storm Warning Radar ..	6,700	..	..	..	6,700
2. Installation of Radiosonde Telemetering Equipment	20,000	..	..	..	20,000
3. Addition of Iso-Contour Equipment ..	..	10,000	..	..	10,000
4. Installation of Radio Facsimile Receiver	..	..	20,000	..	20,000
5. Installation of Transmitters for Volmet Broadcasts	..	65,000	..	..	65,000
6. Installation of Hydrological Station ..	..	2,000	4,500	..	6,500
7. Training and Research	..	..	12,600	8,200	20,800
Total ..	26,700	77,000	37,100	8,200	149,000

Resiting of Storm Warning Radar

8.23. This project is necessary as the Meteorological Office is scheduled to move to the new Operational Building in the Airport some time during 1961. The provisions for this project are for meeting the cost of dismantling the radar assembly, transport of equipment, cables and installation charges. The cost of this project will be shared with the Federation.

Installation of Radiosonde Telemetering Equipment

8.24. It is proposed to install this equipment in the Upper Air Observatory, Kim Chuan Road, Singapore. This project, which will cost $20,000 to install, will replace existing radiosonde equipment which has been functioning since 1954. It will provide the latest equipment available for the measurement of Meteorological elements in the upper air and will enable automatic counting and plotting signals from the ascending radiosonde. At present, the upper air data from radiosonde ascents are available only after about 2½ hours from time of commencement of ascents. This lengthy period is undesirable, for with increasing numbers of high flying jet aircraft, it is becoming necessary to provide upper air information as quickly as possible for the local forecaster and for transmission to meteorological centres in neighbouring countries. The new radiosonde telemetering equipment will receive and process the results of radiosonde ascents within an hour.

Addition of Iso-contour Equipment

8.25. The installation of Iso-contour Equipment will serve as a supplementary equipment to the existing storm warning radar at the Airport. The storm warning radar provides a picture of the precipitation distribution within a radius of about 200 miles of the Airport, but it is at present not possible to deduce the intensity of precipitation from the radar echo display. The iso-contour equipment used in conjunction with the radar will provide information on the intensity of rainfall necessary for rainfall and flood forecasting and for hydrology. This project will cost about $10,000.

Installation of Radio Facsimile Receiver

8.26. The installation of this project will enable the reception of important meteorological data from distant meteorological analysis centres. Forecasting services for aviation in Singapore at present are generally confined to neighbouring areas in Tropical Regions but with the advent of new and larger aircraft capable of covering great distances between stops, the Meteorological Service will be required to provide flight forecasts extending into Temperate Regions. The reception of up-to-date surface and upper air charts and analyses from Temperate Region forecasting centres will then become absolutely necessary and the radio facsimile receiver is the most satisfactory equipment for obtaining the required information. It is estimated that this project will cost $20,000 to install.

Installation of Transmitters for Volmet Broadcasts

8.27. This project which will cost $65,000 when installed will provide the means for transmitting the Singapore Volmet Broadcasts for aviation on VHF frequencies. It is designed to implement the Volmet Broadcast Plan for South East Asia recommended by the recent International Civil Aviation Organization Regional Air Navigation Meeting. The existing frequency of transmission provided by the Meteorological Service is not a recommended frequency and is considered unsatisfactory because of poor effective range and interruptions by atmospherics.

Installation of Hydrological Station

8.28. The establishment of this Station in Singapore is a step in the proposed pan-Malayan network of Stations. With the implementation of this Scheme it will then be possible to undertake analyses of observational data leading to the development of flood warning and control methods for Malaya and Singapore.

8.29. Hydrology is a new activity which has come under the purview of the World Meteorological Organisation since April, 1959. Owing to the close relationship between hydrology and meteorology, it has become a common practice for national meteorological services to assume responsibilities in the routine and technical aspects of hydrology.

Training and Research

8.30. This project will not involve any immediate capital expenditure but it is estimated that the Scheme would cost $20,800 over the period 1963 to 1964. It is proposed that one Meteorological Officer newly recruited to the Service be sent abroad to obtain a research degree in meteorology at the Imperial College, London University, the only University in the United Kingdom with research facility in meteorology. On the successful completion of this course the officer will be better equipped to undertake research to improve techniques in local forecasting.

CIVIL AVIATION

8.31. The Department of Civil Aviation, in the next few years, will complete works in progress including a permanent operation block terminal building, and embark on new developments which may be grouped under three main groups, which are:—

(i) Extension to runway and aprons;

(ii) Navigational aids and communication facilities; and

(iii) Building requirements.

Development expenditure for Civil Aviation is expected to be $10.9 million in the Plan period.

TABLE 8.2

CIVIL AVIATION DEVELOPMENT PROGRAMME

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Completion of Existing Works ..	426,750	175,060	..	..	601,810
2. (i) Completion of Permanent Terminal Building—Operations Block	950,000	..	..	..	950,000
(ii) Equipment for new Terminal Building	45,000	..	..	..	45,000
3. Runway Extension	1,600,000	400,000	..	..	2,000,000
4. Parking Apron	400,000	1,200,000	..	..	1,600,000
5. Passenger Terminal Building ..	700,000	800,000	500,000	500,000	2,500,000
6. Hangar	..	..	600,000	..	600,000
7. Apron Control Office	55,000	..	..	..	55,000
8. Radar	60,000	1,183,000	..	..	1,243,000
9. High Power or VOR	50,000	100,000	..	..	150,000
10. High Power VHF	20,000	80,000	..	..	100,000
11. I.S.B. Equipment	155,000	145,000	..	..	300,000
12. Automatic Tape Relay	..	..	610,000	140,000	750,000
13. Transmission Measuring Set, Attenuator and L.R.V. Control ..	7,260	..	..	..	7,260
Total ..	4,469,010	4,083,060	1,710,000	640,000	10,902,070

8.32. A series of 4 project papers containing technical details has been separately prepared and the following notes give a brief summary of the projects.

Extensions to Runway and Aprons

8.33. The Airport at Paya Lebar at present has an 8,000 ft. runway. It was originally proposed that, in order to meet demands of larger aircraft, the runway should be extended to 10,000 feet. The position has since been reviewed and it is now considered that the extension of the runway to 10,000 ft. is a very doubtful requirement technically and unjustified on other grounds. It would, however, be a mistake not to extend at all merely on the basis of anticipated improvement on aircraft performance of present day jets and the designed performance of present day jets and the designed performance of the second generation jets. It is considered that an acceptable compromise would be to extend the existing runway to 9,000 ft. Such a runway length would almost meet the Qantas requirement with present day transfiguration and present day performance. With the extension to 9,000 ft. it would be possible to encompass airport property and avoid removal of homes, felling of coconut and rubber trees and the further acquisition of land.

8.34. The existing parking apron provides parking bays and hydrant re-fuelling facilities for ten aircraft and, although these bays are approximately 200 feet apart, the large jet types can be accommodated in only two bays. By the modification of the parking apron and the provision of additional equipment (blast walls) the problem could be overcome but this should be viewed as a comparatively expensive interim step. As additional parking bays and re-fuelling facilities will be required soon in any case, it is considered that the requirement should be met by the construction now of a new apron area with facilities for six additional parking bays, of which probably five could be needed for jets.

8.35. It is therefore recommended that the following extension to runway, taxi ways and parking apron be undertaken:—

(*a*) extension of existing runway by 1,000 feet to provide 9,000 feet of paved runway service at an additional cost of $2 million;

(*b*) construction of extended parking apron with the necessary hydrant re-fuelling facilities at a cost of $1.6 million.

Navigational Aids and Communication Facilities

8.36. The provision of navigational aids and communication facilities for Civil Aviation throughout the world closely follows the pattern specified by the International Civil Aviation Organisation at the various meetings held to discuss these matters. Generally speaking, the basic requirement policy for the provision of these facilities is discussed at Divisional Meetings and for implementation at the Regional Meetings. The standards to be adopted are specified in the relevant technical I.C.A.O. Annexes.

8.37. Air traffic itself is the basis on which the requirement is built. As traffic increases it becomes necessary for safety reasons to provide air traffic control separation service. Whenever a separation safety service is established, certain control air-spaces are promulgated within which instructions are issued by Controllers in order to separate and regulate the flow of traffic.

8.38. It follows that in order to regulate the traffic flow certain standards of navigational aids and communication facilities are essential. As the flow of air traffic increases in volume and speed it becomes necessary to raise the standard of navigational aids and communication facilities because of the reducing permissible margin of error.

8.39. In order to meet the internationally accepted standards, installations to navigational aids and communication facilities in the following fields are recommended:—

1. Radar.
2. High Power NBD or VOR Aircraft Navigation Aid.
3. High Power VHF Aircraft Communications Installation.
4. I.S.B. Communications Equipment.
5. Automatic Tape Relay.

Building Extensions

8.40. The building requirements for development of the Airport consist of:—

(A) *Construction of a Passenger Terminal Building*

8.41. The present terminal building at the Airport was designed originally to provide annexes for aircraft maintenance, workshops, stores and administration accommodation with provision for passenger handling on a temporary basis only. Because the building was a compromise, it never did entirely meet the requirements of any one function. It was originally intended that when a new Passenger Terminal Building was constructed, the existing building should be converted essentially for aircraft maintenance.

8.42. The present terminal building is hopelessly inadequate and unsatisfactory for the passenger handling, maintenance, cargo administration and Government control aspects. It is, therefore, necessary that a new building should be constructed to which would be transferred entirely the passenger handling facilities, so that the existing building could be used for its original purpose—aircraft maintenance, stores, cargo and the associated administrative functions.

(B) *The Construction of an additional Hangar*

8.43. At present, the Airport has three hangars with apron access available for aircraft maintenance. Each apron is provided with annexes suitable for workshops, stores and engineering administration. Of these three, one is leased to Qantas, one to Malayan Airways and the third will be leased to Malayan Airways as soon as alternative accommodation can be found for the engineering sections of K.L.M. and P.A.A. who now use part of the third hangar. When this arrangement is completed there will be no public hangarage available at the Airport.

8.44. On the basis of past experience it is conservatively estimated that the provision of an additional hangar would bring in revenue at a minimum annual rate of $30,000. A hangar of the same general design as those presently provided would cost approximately $600,000.

(C) *The Construction of an Apron Control Office*

8.45. The function of an Apron Control Office consists of the control of persons and vehicles on the Aprons and, under the general supervision of the Airport Control Tower, the control of aircraft movements on the Apron. In order to perform this function satisfactorily it is essential that the Apron Control Unit should have an unobstructed view of the Aprons.

8.46. The requirement of Apron Control is brought about by the necessity to regulate vehicle and aircraft movements for safety reasons. The requirement becomes greater as jet aircraft are introduced because of the greater danger from heat, noise and blast from the jet engines.

TELECOMMUNICATIONS AND CABLE SERVICES

8.47. The telecommunications and cable services in Singapore are at present provided by two organisations, the Telecommunications Department and the Cable & Wireless Ltd. The Cable & Wireless, Ltd. provides the overseas telegraph services, and the Telecommunications Department the other forms of telecommunications services both inside Malaya and to countries abroad with the exception of the telephone services within the State of Singapore, which is provided by the Singapore Telephone Board.

8.48. With the attainment of self-government, the question of Singapore seeking membership with the Commonwealth Telecommunications Board will have to be considered. To prepare for this, it is planned to set up a Statutory Board to take over from the Telecommunications Department and the Cable & Wireless, Ltd. the responsibility of providing all telecommunications services except internal telephone services for this country.

8.49. With the exception of the Telex service, the other telecommunications facilities available just cope with current demand. There has been little development for the past three years, and the stage is approaching where development will have to be stepped up, if the growing demand of the future is to be met. This expanding demand for telecommunications services is clearly indicated by the revenue obtained for telecommunications services which has been rising steadily from $2.5 million in 1951 to $6.6 million in 1959.

8.50. The supply of Telex service at present available falls short of the demand. There is a waiting list for these services. As the supply to the public of Telex services is highly profitable, it is desirable to develop Telex so as to be able to meet all needs.

8.51. There are, therefore, two forms of developments which are required for the next four years:—

(*a*) those arising from the merger of the Telecommunications Department and the Cable & Wireless Ltd., under a Board, and

(*b*) normal developments to maintain and improve existing services by providing for normal wear and tear to equipment and by improvement and expansion to keep pace with technological advances and the rising demand.

8.52. The developments that are required arising from the establishment of a Board for all telecommunications services are:—

(*a*) the acquisition of a building and equipping it to serve as the headquarters of the Board to house the combined administrative offices, workshops, apparatus, machines, etc. of the two organisations;

(*b*) the setting up of a small Government Department to take over the licensing and regulatory functions from the Telecommuncations Department.

8.53. The new major development projects are briefly described below:—

(1) *Headquarters for the proposed Board*

The headquarters of the Telecommunications Department and the Cable & Wireless, Ltd. are situated in different buildings. It will be administratively inconvenient and uneconomical to allow them to remain as separate units after the merger. The headquarters of the Telecommunications Department occupy a part of a Government building. The space it has is not adequate for the headquarters of the proposed Board. Part of the Building now occupied by the Cable & Wireless Ltd. is occupied by tenants. It may be difficult to get rid of the tenants, but even if this is possible, the building

will provide barely sufficient space to meet present requirements, and will leave no room for expansion. It is preferable to acquire a building with space to meet future requirements. The cost of a suitable building together with the cost of land is estimated at $2.5 million. Machinery and plant to be initially installed in this building is estimated to cost $900,000 making an estimated total of $3.4 million.

(2) *New Department for Licensing, etc.*

Among the functions of the Telecommunications Department are:—

(i) conducting surveys of ships' radios;

(ii) issue of licences for transmitting stations, commercial radio reception and for dealers in radios;

(iii) issue of certificates for ship radio operators; and

(iv) tracing of radio interference.

It will not be appropriate for the proposed Board to continue to discharge these functions, and it will be necessary to set up a new Department to take over these duties. This Department could also take over the issue of domestic radio licences and similar duties from the Broadcasting Department. The cost of setting up this Department is estimated at $200,000.

(3) *Terminal for "round-the-world" cable*

A submarine telephone cable to provide telephone services around the world is in the process of being laid. This cable is expected to reach Singapore some time after 1964. It will be necessary to provide a terminal for this cable. The cost of constructing this terminal is estimated at $600,000.

(4) *Transmitting Station, Jurong*

It will be necessary to carry out developments in the station to improve and expand the present services. Based on past experience, it is estimated that it will be necessary to spend about $1,000,000 on works and building and $2,000,000 on machinery and plant, making a total of $3,000,000 over the four-year period.

(5) *Receiving Station, Yio Chu Kang*

Development expenditure to improve and modernize the station is estimated at $100,000 for works and buildings, and $330,000 for machinery and plant.

(6) *V.H.F. Services for the Public*

The field of V.H.F. Services for radio-telephone for the public is still very little developed, and will have to be greatly expanded to satisfy the potential demand. To provide for the development in this field it is estimated that $300,000 will be required for works and buildings and $171,000 for machinery and plant.

(7) *Malayan Trunk Scheme*

The development to expand the Malayan Trunk Scheme to meet the rising future needs is estimated to cost $843,000.

(8) *Underground Cables*

It will be necessary to lay new cables to provide for an increase in circuits.

Another reason why this is necessary is that there is at present only a single cable linking one station to another in Singapore. Consequently, if there is a breakdown in the cable the cable connection from the station to

the other is completely cut off. It is not satisfactory to have the cable communication in such a vulnerable position. These cables to be laid will be arranged to provide an alternative routing in case of a breakdown in the other cable. The cost of laying the underground cables is estimated at $2,160,000.

(9) *Teleprinter Section*

There is at present a waiting list for Telex Service. As the supplying of Telex services is highly profitable, the development of Telex services is desirable not only to satisfy the demand but also as a revenue earning project. It is estimated that $608,000 will be required for this development.

(10) *Needs of other Government Departments*

With technological advances the Telecommunications services required to meet the needs of other Government Departments, especially the Meteorological Department, will have to be improved constantly. This development is estimated to cost $424,000.

8.54. The total cost of the projects so far outlined and other works as shown in Table 8.3, is estimated at $12,877,310 over the four-year period. A modern economy needs an efficient telecommunications system and it is anticipated that the planned development in the field of telecommunications will improve and expand services to serve commerce and industry expeditiously and well.

TABLE 8.3

TELECOMMUNICATIONS DEVELOPMENT PROGRAMME

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Cable Ft. Canning/Fullerton Building	9,600	..	..	..	9,600
2. Underground Cables	860,000	500,000	400,000	400,000	2,160,000
3. International Telex Services ..	4,510	..	..	..	4,510
4. International Radio Services ..	50,000	..	..	..	50,000
5. Overseas Radio Telephone Services ..	67,300	..	..	..	67,300
6. Radio Telephone Services ..	60,300	..	..	..	60,300
7. VHF SE/Tanjong Uban	10,000	..	..	..	10,000
8. Licensing Department	..	200,000	..	..	200,000
9. Local VHF Services	53,600	..	..	..	53,600
10. VHF Services	221,000	100,000	50,000	100,000	471,000
11. Malayan Trunk Scheme	433,000	300,000	70,000	40,000	843,000
12. Malayan Trunk Services ..	36,000	..	..	..	36,000
13. Microwave Trunk Telephone System SE/KL	12,800	..	..	..	12,800
14. Trunk Telephone Services ..	7,000	..	..	..	7,000
15. Modern Phonogram Equipment ..	1,800	..	..	..	1,800
16. Telegraph Services	282,500	..	..	..	282,500
17. Headquarters for proposed Board ..	..	800,000	1,200,000	1,400,000	3,400,000
18. Receiving Station Yio Chu Kang ..	180,000	100,000	50,000	100,000	430,000
19. Submarine Cable Terminal ..	..	..	..	600,000	600,000
20. Teleprinter Equipment	72,700	..	..	..	72,700
21. Teleprinter Section	308,000	100,000	100,000	100,000	608,000
22. Transmitting Station Jurong ..	800,000	800,000	800,000	600,000	3,000,000
23. Tools and Test Equipment ..	2,000	..	..	..	2,000
24. General	45,000	..	..	..	45,000
25. Division IV Quarters Jurong Road ..	24,000	..	..	..	24,000
26. Improvements to Buildings and Grounds	2,000	..	..	..	2,000
27. Other Government Departments ..	54,000	100,000	100,000	170,000	424,000
Total ..	3,597,310	3,000,000	2,770,000	3,510,000	12,877,310

ROADS

8.55. Singapore Island has approximately 475 miles of roads, of which 275 miles are in the rural area and maintained by Government through the Public Works Department. The remaining roads are urban roads and maintained by the City Council's Engineers' Department. City roads radiate from a very small central business area to the City boundaries, about 4 miles from the centre of the town. The heaviest traffic naturally falls on the city roads and acute congestion in the city area has resulted in Government introducing the system of parking and one way streets. The situation is aggravated by hawkers, shop keepers and cyclists using side walks meant for pedestrians and by the prevalence of open drains which narrow the available road space. In the City, the need is to cover up drains and to construct and improve sidewalks. In the rural areas, development of road communications has been confined to the more populated eastern part of the Island and the western and northern ends have been neglected. The southern part is the City area. Extensions have been made to the City's main radial roads but these have mainly been confined to housing estates, the large villages and suburbs. Agricultural roads are still scarce and in many cases existing rural roads have outgrown their carrying capacities and require widening and straightening.

8.56. Development in the City area is directed at widening streets and sidewalks, and the covering up of open monsoon drains. It is also planned to construct dual carriageways to serve as outlets from the congested areas in the City to the new industrial and housing estates. In the rural area, the need is for agricultural road development, involving the construction of new metalled roads and widening and straightening of existing roads.

8.57. Road development will cost a total of $29.5 million over the Plan period. The breakdown of development shown in Table 8.4, includes widening and reconstruction of existing roads and the building of new dual carriageways, ring roads, radial roads, gyratory systems and roundabouts.

TABLE 8.4

DEVELOPMENT PROGRAMME FOR ROADS

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Minor Constructional Works ..	870,000	2,100,000	2,010,000	1,980,000	6,960,000
2. Widening and Reconstruction ..	857,000	1,669,605	673,000	1,400,000	4,599,605
3. Dual Carriageways	376,000	1,000,000	2,100,000	2,350,000	5,826,000
4. New Roads	..	1,969,600	2,300,000	1,300,000	5,569,600
5. Ring Roads	477,000	1,121,689	..	750,000	2,348,689
6. Radial Roads	1,050,000	..	..	..	1,050,000
7. Gyratory Systems	200,000	620,000	100,000	..	920,000
8. Roundabouts	50,000	820,000	900,000	475,000	2,245,000
Total ..	3,880,000	9,300,894	8,083,000	8,255,000	29,518,894

8.58. Some interesting road development projects are:—

(*a*) *Alexandra Road widening:* This project costs $1.5 million and involves the widening of the road from the Alexandra Fire Station to Telok Blangah Road and from Delta Road to Havelock Road Police Station. Part of the road will be in the rural area. The project will provide easy access from the dock area to the City centre.

(*b*) *Dual Carriageway:* Four roads which link Serangoon Road to Bukit Timah Road and Geylang Road to MacPherson Road will be widened and improved to provide for a faster and smoother flow of traffic. The total cost of the project will be $5.8 million over the four-year period.

(*c*) *Ring Roads:* It is intended to provide for a better and quicker access bewteen the main radial roads of the City. Approximately $2.3 million will be spent on construction of five Ring roads to effect these connections.

(*d*) *Roundabouts:* As part of the programme to relieve traffic congestion and reduce accidents at intersections and facilitate free and easy access between major roads, the construction of five circuses and enlarging three is envisaged in the four-year programme. The total cost will be about $2.2 million.

8.59. The road development projects are necessary to reduce traffic congestion in the City areas. The dual carriageways will provide for a freer flow of traffic from the heavily populated housing and industrial areas to the City and Federation of Malaya. New roads in the rural areas will lead to the opening up of new agricultural land as well as vacant development sites. The ring and radial roads will provide valuable traffic by-passes from the congested areas between the docks and wharves and the Federation of Malaya.

DRAINAGE

8.60. Work on drainage schemes is concentrated on the alleviation of local flooding. In the City area reconstruction work on Stamford Canal has continued from last year. The canal on the North side of Orchard Road has been re-built from Scotts Road to Grange Road and this work is continuing with the reconstruction of the canal on the South side from Paterson Road to Cuscaden Road. This will complete the present scheme which will prevent flooding in this area. The other major work being carried out is in the area near Nelson Road. This area has suffered badly from floods. So a new drain is being constructed from Radin Mas down to the sea with a new outlet through the harbour area. In addition to the above, a number of minor works of improvements to existing canals are being carried out and the cleansing and dredging of existing drains and canals go on continually.

8.61. In the City area, the extensive network of drainage requires reconstruction and improvement. These entail lining of canals, etc. in concrete and regrading of drains and canals with two main objects in view; first, to obtain improved flow and second to make it possible to keep them in good condition. New drainage projects involve the construction of new roadside drains and widening, deepening and lining of canals and streams which are required in certain areas in order that damage to property caused by floods may be prevented.

8.62. Drainage development over the four-year Plan period will cost $6.5 million. It is directed at improving existing major and minor drainage by widening, reconstructing and lining of canals and outlet drains, and the initiation of new flood alleviation schemes. Table 8.5 shows a breakdown of works to be undertaken.

TABLE 8.5

DRAINAGE DEVELOPMENT PROGRAMME

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
I.—DRAINAGE IMPROVEMENTS					
1. Alexandra Canal—Construction and Lining ..	..	100,000	300,000	300,000	700,000
2. Canal from Thomson Road to Lornie Road—Widening and Reconstruction ..	..	240,000	..	..	240,000
3. Canal from Thomson Road to Serangoon Road—Widening and Reconstruction ..	..	..	..	280,000	280,000
4. Dhoby Ghaut—Widening of Bridge	200,000	..	..	..	200,000
5. Minor Canals	100,000	200,000	200,000	196,000	696,000
6. Pasir Panjang Road, 5 m.s. ..	70,000	..	..	..	70,000
7. Rochore Canal:—					
(*a*) Lining	..	200,000	200,000	..	400,000
(*b*) Transfer of Gates ..	90,000	..	..	..	90,000
8. Stamford Canal—Widening and Reconstruction ..	..	400,000	200,000	200,000	800,000
9. Sungei Whampoa—Lining ..	..	100,000	100,000	100,000	300,000
10. Compensation under Local Government Ordinance for land already purchased for Drainage Reserve ..	3,000	..	..	..	3,000
Sub-Total ..	463,000	1,240,000	1,000,000	1,076,000	3,779,000
II.—MAJOR DRAINAGE					
1. Radin Mas/Nelson Road Area—New Drainage for Flood Alleviation	876,000	..	..	..	876,000
2. Sungei Kallang—(*a*) Realignment ..	100,000	200,000	100,000	..	400,000
(*b*) Land Acquisition	70,000	..	..	..	70,000
Sub-Total ..	1,046,000	200,000	100,000	..	1,346,000
III.—MINOR DRAINAGE					
1. Bartley Road to MacPherson Road—Reconstruction of Outlet Drain	300,000	..	..	..	300,000
2. Drainage from Jalan Besar to Kelantan Road ..	25,000	..	..	..	25,000
3. Geylang River—Concrete Lining	250,000	245,000	240,000	240,000	975,000
4. Kallang Basin—Construction of New Main Drain ..	5,000	..	..	..	5,000
5. Telok Ayer Street/Circular Road Area—New Drainage for Flood Alleviation ..	25,000	..	..	..	25,000
6. Geylang Serai Malay Settlement	80,000	..	..	..	80,000
Sub-Total ..	685,000	245,000	240,000	240,000	1,330,000
Grand Total ..	2,194,000	1,685,000	1,340,000	1,316,000	6,535,000

8.63. Reconstruction and lining of existing drains, canals and streams will provide adequate drainage and improve the amenities in the City area. New drainage works is necessary for flood prevention measures within the City area where floods cause a considerable damage to property. Improvement of the health of the community will also be achieved through the reduction in the breeding of malarial carrying mosquitoes, flies, etc.

BRIDGES

8.64. The City Area of Singapore has a total of 130 bridges with widths up to 80 feet and spans up to 200 feet, and two multi-spanned bridges. The need for bridges in the City has been conditioned mainly by the expansion of roads to relieve traffic congestion and to a lesser extent by the development of canals or waterways for drainage purposes. Nearly fifty of these bridges require reconstruction, redecking, realignment or extension owing either to age or to heavy usage. Thus, Cavenagh Bridge, built in 1869, has not only to be strengthened but also to be raised in order that loaded vessels at high tide may go up the Singapore River. Plans to build new roads and roundabouts necessitate bridges being constructed over rivers whilst existing canals and rivers require bridges as links to roads running parallel to one another. Thus, the proposed Middle Ring Road has to be bridged over the northern part of the Kallang Basin whilst 3 bridges have to be built over the Bukit Timah Canal as part of the scheme for a dual carriageway from the City to the Singapore end of the Causeway.

8.65. The bridges development programme is divided into (*a*) the reconstruction of existing bridges and (*b*) the construction of new ones. Twenty-four old bridges require reconstruction over the next four years and of these, four need reinforcement or modification as part of the Singapore Improvement Scheme.

8.66. Fourteen new bridges are proposed for construction from 1960 to 1964. Of the new works Jalan Besar, Adam Road and Jembatan Merah bridges are for future roundabout schemes where there are new cross-roads, 3 bridges are for the one-way traffic scheme along Bukit Timah and Dunearn Roads while the remainder are in connection with new road works.

8.67. The total cost of the proposed four-year programme for bridges comes up to $10.4 million and is divided into $5.8 million for reconstruction and $4.6 million for new bridges. The breakdown of works is shown in Table 8.6.

TABLE 8.6

DEVELOPMENT PROGRAMME FOR BRIDGES

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
I.—CONSTRUCTION OF NEW BRIDGES					
1. Adam Road—2 bridges ..	..	..	600,000	..	600,000
2. Bukit Timah Canal—3 bridges	900,000	..	..	..	900,000
3. Jembatan Merah Bridge ..	150,000	..	..	..	150,000
4. Jalan Besar Bridge ..	500,000	..	..	..	500,000
5. West Coast Road/Jurong Road	900,000	540,000	..	..	1,440,000
6. Railway Bridge (New Link Road)	..	500,000	..	..	500,000
7. Sungei Kallang Bridge for the Middle Ring Road ..	..	..	..	500,000	500,000
8. Sungei Whampoa—Construction of Footbridge ..	..	13,000	..	..	13,000
Sub-Total (New Bridges) ..	2,450,000	1,053,000	600,000	500,000	4,603,000

TABLE 8.6—*continued*

DEVELOPMENT PROGRAMME FOR BRIDGES—*continued*

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
II.—RECONSTRUCTION OF BRIDGES					
1. Tanglin Circus—2 culverts ..	..	..	500,000	..	500,000
2. Lim Ah Woo Bridge—Widening	100,000	..	..	..	100,000
3. Lornie Road Bridge—Widening	120,000	..	..	..	120,000
4. Beach Road Bridge—Extension	..	180,000	..	..	180,000
5. Braddell Road (2 Bridges)—Reconstruction ..	..	250,000	280,000	..	530,000
6. Clemenceau Avenue Bridge—Redecking	..	30,000	..	..	30,000
7. Edinburgh Bridge—Realignment	..	55,000	..	..	55,000
8. Geylang Bridge—Widening ..	..	55,000	..	..	55,000
9. Hampshire Bridge—Improvement to Approaches ..	..	..	..	80,000	80,000
10. Havelock Road Bridge—Reconstruction	..	..	110,000	..	110,000
11. Hertford Bridge—Redecking	..	..	50,000	..	50,000
12. Keppel Road Bridge—Reconstruction	..	90,000	..	..	90,000
13. New Bridge Road Canal—Reconstruction of 5 Bridges	..	..	400,000	450,000	850,000
14. Syed Alwi Bridge—Reconstruction	..	325,000	..	..	325,000
15. Tanglin Bridge—Extension ..	..	90,000	..	..	90,000
16. Victoria Bridge—Extension ..	..	..	180,000	..	180,000
17. Waterloo Bridge—Extension	..	..	180,000	..	180,000
18. Prince Charles Crescent Bridge—Extensions	..	100,000	..	..	100,000
19. Cavenagh Bridge—Strengthening and Raising ..	..	500,000	..	..	500,000
20. Coleman Bridge—Reconstruction	..	100,000	600,000	400,000	1,100,000
21. Read Bridge—Raising ..	..	..	..	100,000	100,000
22. Ord Bridge—Strengthening and Raising	..	..	..	500,000	500,000
Sub-Total (Reconstruction) ..	220,000	1,775,000	2,300,000	1,530,000	5,825,000
Grand Total ..	2,670,000	2,828,000	2,900,000	2,030,000	10,428,000

8.68 (*a*) *Reconstruction.* These are mainly for improvement to traffic flow in conformity with existing requirements and anticipated increases in the future. The programme includes raising and strengthening of the Cavenagh, Coleman, Ord and Read Bridges over the Singapore River, to increase the headroom under the bridges at high tide, as part of Singapore River Improvement Scheme. When the bridges are reconstructed, certain improvements will be incorporated with a view to improving traffic conditions. From 1961 to 1964, $2.2 million will be spent on reconstruction of these 4 bridges. The balance of $3.6 million will be expended on 20 other old bridges from 1961 to 1964.

(*b*) *New Construction.* These are connected with new road or traffic schemes. Of the 14 bridges contemplated, 7 are in respect of new road-works, 5 are to bridge Bukit Timah and Alexandra Canals and 2 are culverts at Tanglin Circus. These new bridges are indispensable if proposed road schemes are to be implemented successfully. $4.6 million will be spent on new bridges from 1961 to 1964.

8.69. The bridges will provide quicker communication by road and relieve traffic congestion in the City Area. In a City which thrives by its trade and industries, a faster flow of traffic is vital to economic development. By raising the 4 bridges over Singapore River the carriage of seaborne goods by lighters to the heart of the City via the Singapore River will be facilitated and will be independent of tide level.

POSTS

8.70. The importance of the Island as a postal centre arises from its central geographical position and excellent air and shipping facilities. These have made the Singapore Post Office an important postal distribution depot for the neighbouring territories of Sarawak, Brunei, North Borneo, Indonesia, Thailand and the Philippines. Large quantities of mail destined for and originating from these countries pass through the Singapore Post Office daily.

8.71. Apart from its basic function in the collection, despatching and delivery of different categories of mail, the Post Office operates other non-postal services. The three most important of which are the P.O. Savings Bank and the Money Order and Postal Order Services. Post Offices in the State also carry out agency services on behalf of other Government Departments, among which are acceptance of telegrams, the collection of Central Provident Fund contributions, the payment of Army and Air Force allowances, the issue of broadcasting licences and, as from June 1960, the payment of social welfare benefits.

8.72. Singapore and the neighbouring islands are divided into 28 numbered postal districts. The Singapore Post Office provides 3 postal deliveries on weekdays in the central area of the City, and two deliveries in most of the remaining parts of the Island.

8.73. At present, there are 34 post offices and 26 postal agencies in Singapore and the surrounding islands.

8.74. From the statistics of mails handled in Singapore, it is evident that the postal traffic has increased steadily and it is anticipated that it will continue to grow at the same rate as hitherto on account of the increasing population, improved literacy of the people and growth of commerce and industry of the State. Postal mail traffic, revenue and expenditure figures for the period 1951–1959 are quoted below:

TABLE 8.7

PAST PERFORMANCE OF POSTAL DEPARTMENT

Year	*Postal Articles*	*Revenue*	*Expenditure*
1951	67,313,142	8,696,543	5,628,783
1952	76,515,287	9,285,563	6,811,657
1953	82,060,940	10,134,477	7,271,676
1954	85,597,980	10,623,637	8,838,324
1955	88,364,786	11,551,528	8,450,619
1956	92,456,860	12,367,568	9,148,624
1957	97,685,664	12,992,364	9,635,402
1958	98,998,925	12,609,160	9,890,935
1959	108,300,000	13,198,306	9,658,711

8.75. To cope with the anticipated increase in mail work and counter business, the following proposals are submitted:—

(*a*) Build new post offices.

(*b*) Extend and alter existing post offices.

(*c*) Provide more postal agencies.

The development programme for postal services envisaged at nearly $994,000, includes the costs for site, construction, extensions and alterations and equipment. This is shown in Table 8.8.

TABLE 8.8

DEVELOPMENT PROGRAMME FOR POSTAL SERVICES 1961-1965

Projects	*1961*	*1962*	*1963*	*1964*	*1965*	*Total*
	$	$	$	$	$	$
1. Site	12,000	..	100,000	30,000	20,000	162,000
2. Building	215,000	170,000	145,000	140,000	95,000	765,000
3. Extensions and Alterations	11,200	..	45,000	3,600	3,000	62,800
4. Equipment	1,245	946	292	877	831	4,191
Total ..	239,445	170,946	290,292	174,477	118,831	993,991

8.76. More concretely, the development programme will be phased as shown in Table 8.9. below:

TABLE 8.9

NEW POST OFFICES, POSTAL AGENCIES, QUARTERS AND EXTENSIONS REQUIRED, 1961-65

Year	*New Post Offices*	*Extension to P.O.*	*Uniformed Staff Quarters*	*Postal Agencies*
1961	2	1	1	2
1962	2	..	..	2
1963	2	1	..	2
1964	1	1	..	2
1965	1	1	..	1
Total ...	8	4	1	9

During the period 1961–1965, 8 new post offices will be built and extensions made to another four. However, the scheme for increasing the number of postal agencies is provisional and subject to review in the light of actual development.

SINGAPORE TELEPHONE BOARD DEVELOPMENT

Extension to General Telephone Service

8.77. The development programme of the Singapore Telephone Board can be divided into 3 parts—extension of general telephone services, improvement of trunk service and administrative development. At the end of 1959 there were nearly 35,000 telephone connections distributed as follows:—

Central and City Exchanges	...	21,221
Tanjong Katong Exchange	...	5,290
Paya Lebar Exchange ...	...	3,105
North Exchange ...	...	2,308
Queenstown Exchange ...	...	973
Bukit Timah Exchange	...	1,808
Total	...	34,705

In addition to this, 3,000 applications for telephones were outstanding. It is estimated that by the end of 1964 the demand for telephones would have increased to 54,000. It entails the connection of an additional 19,000 lines.

8.78. The distribution of these new lines is expected to be as follows:—

Central and City Exchanges	...	5,000
Tanjong Katong Exchange	...	4,000
Paya Lebar Exchange ...	...	3,000
North Exchange ...	...	2,000
Queenstown Exchange ...	...	1,000
Bukit Timah Exchange ...	...	1,000
Changi Exchange ...	...	1,000
Nee Soon Exchange ...	...	1,000
Jurong Exchange ...	...	1,000
Total	...	19,000

The Changi exchange has been constructed and equipment is expected to be installed before the end of 1961. Nee Soon and Jurong districts have no exchanges at present and the Development Plan includes provision for the setting up of these exchanges.

8.79. The main development programme is the extension of facilities provided by the existing exchanges. This would cost about $17.45 million. The three new projects—Changi, Nee Soon and Jurong, would cost about $3 million.

8.80. The extension of telephone services involves very considerable laying of new cables and overhead lines. In addition, there is a phased programme for further cable connections between exchanges.

Improvement of the Trunk Service

8.81. Trunk dialling equipment is to be installed during the period under review to facilitate subscribers who so choose dialling their own numbers (in Kuala Lumpur initially and ultimately in the other towns of Federation) instead of resorting to the service of an operator as at the moment.

8.82. The present call office (Public Telephones) system is to be replaced as and when possible by more modern equipment. It is hoped to extend the system by 50 call offices a year and change the existing types as they are due for replacement.

Administration

8.83. The past five years have seen an eighty-two per cent increase in the number of telephones in Singapore in which time it has been necessary to concentrate on providing the telephone buildings, plant and equipment. There has been insufficient capital available to do more. The staff has grown as has the need for stores, transport, etc. The Board, therefore, has now obtained 2 sites at Kampong Ampat to concentrate the stores, transport and the administration for external works.

8.84. It is now proposed to develop this site as a comprehensive depôt in four phases:—

1. Hardstanding, etc. for transport (completed),
2. Workshop Block (completed),
3. Stores and Administrative Block (planned for 1961),
4. Cable Storage (not yet designed) 1961.

When it is completed, stores now at six different temporary stores will be concentrated at the depôt for increased efficiency. All crews will operate from there, resulting in considerable saving in time.

Hill Street New Administrative Block

8.85. The present Telephone Headquarters Building at Hill Street has remained unchanged except for minor additions and alterations since 1948 and is totally inadequate considering that the system has more than quadrupled in extent since then. A new 3-storey building with parking space underneath it is to be built to house:—

(*a*) Management and Secretariat,
(*b*) Development Department,
(*c*) Contract and Services Department.

The present space to be vacated by the abovementioned departments will be taken up by:—

(*a*) Exchange Department,
(*b*) Training,
(*c*) Additional space for directories, small stores and locker rooms.

8.86. The development programme for the Singapore Telephone Board is summarised in Table 8.10.

TABLE 8.10

SINGAPORE TELEPHONE BOARD ESTIMATED CAPITAL EXPENDITURE 1961–1964

(In million $)

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
(*a*) Extensions	2.530	2.898	2.612	2.427	10.467
(*b*) Instruments (Fittings)	.680	.700	.720	.740	2.840
(*c*) Exchange Equipment	1.330	1.000	.770	..	3.100
(*d*) Buildings	.163	.025	.179	.020	.387
(*e*) Land	.025	.004	.004	.004	.037
(*f*) Miscellaneous	.162	.150	.150	.150	.612
Total ..	4.890	4.777	4.435	3.341	17.443

SUMMARY

8.87.—(i) Transport and Communication Services are already well developed, but these services cannot remain static. They must be further improved and expanded to meet the demands of a growing economy. Projects for development of these services would require about $117.3 million, or about 23 per cent of the total to be spent on Economic Development projects.

(ii) Road development constitutes the largest single item in the Transport and Communications development programme, requiring a total of $29.6 million. These projects are aimed at reducing traffic congestion in the City areas and improving transport facilities in rural areas.

(iii) Port development—wharf extension and improvement of the Singapore River—constitutes the next large item followed by the Telephone Board and Telecommunications Development Programmes.

(iv) It is planned to set up a Statutory Board to take over from the Telecommunications Department and Cable & Wireless Ltd. This Board would then be responsible for the provision of all telecommunications services for the State with the exception of internal telephone services.

(v) Civil Aviation requires about $11 million in the Plan period, towards which expenditure the United Kingdom Government would be contributing in the form of grants. The major projects for airport development are the extension of the runway to meet the requirements of larger aircraft, the parking apron project and a new passenger terminal building. Large sums have also been earmarked for the further development of telecommunications services at the Airport.

(vi) Other projects include improvement of the Meteorological Services and the Postal Services.

CHAPTER IX

SOCIAL DEVELOPMENT—HEALTH, EDUCATION, CULTURE AND SOCIAL WELFARE

Introduction

9.1. In this and the following chapter development of Singapore's social services would be discussed.

9.2. The existing standards of social services in Singapore compare favourably with most of the countries in Asia and could be said to be among the highest in South-East Asia. The maintenance of such standards depends on the ability to achieve economic expansion to match population growth.

9.3. Low mortality rates have been achieved for many years already and efforts to fight the remaining major disease—tuberculosis—have been sustained and are planned to be intensified through mass health campaigns. In future years more emphasis could be placed on the preventive side in Health Services.

9.4. In the field of education a place in primary school for every child is already a reality and further expansion of educational facilities for post-primary education and technical education are logical developments envisaged by the Education Plan for the next four years. The expansions of both technical secondary education and the Polytechnic are directly related to the overall emphasis on industrial expansion in this country.

9.5. In the field of welfare services the provision of community centres on a decentralized basis have an important place as these would be the focal points for community improvements as well as provide healthy outlets for community leisure activities.

9.6. The schemes for housing and complementary community services are comprehensive. These would be dealt with in the following chapter.

9.7. The sum required for capital projects included in Social Development amounts to about $350 million over the next four years which represents approximately 40 per cent of total capital requirements for the Plan.

9.8. Social development projects, particularly those for health education and housing, require high maintenance costs. It has been estimated that as a consequence of these social development projects, there will be an increase in annual recurrent expenditure of no less than $76 million during the period of the Plan.

HEALTH

9.9. The Medical Plan for the next four years is summarized in Table 9.1. The principles on which this Plan is based are as follows:—

(1) Integration of Government and City Council Health Services;

(2) A closer association between the curative and preventive "Health" Services;

(3) Decentralization and reorganisation where necessary;

(4) Adaptation of the services to the special needs of the community at the lowest cost.

9.10. The details and basis for each proposed project are discussed in the following pages.

TABLE 9.1

DEVELOPMENT PROGRAMME FOR MINISTRY OF HEALTH

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
HOSPITALS					
District Hospital					
1. Thomson Road (to complete Theatre, X-ray Department and Polyclinic Blocks	1,587,000	126,000	..	..	1,713,000
2. 2nd District Hospital—400 Beds and Polyclinic	..	..	..	6,200,000	6,200,000
Hospital for Chronic Sick and Mental Defective Institution					
3. To complete Kitchens, Offices, Equipment	257,200	388,800	..	..	646,000
General Hospital					
4. Orthopaedic Department, Extension —40 Beds	440,000	600,000	762,000	..	1,802,000
5. Third Medical Unit—100 120 Beds	76,440	63,560	..	..	140,000
6. Radiotherapy Unit	..	..	612,000	700,000	1,312,000
7. Outpatient Clinic—equipment and furniture	3,160	..	..	..	3,160
8. School of Radiography—equipment and furniture	20,000	..	..	..	20,000
9. Alterations and Extensions ..	544,500	30,000	30,000	..	604,500
Tan Tock Seng Hospital					
10. Thoracic Unit	..	1,550,000	..	..	1,550,000
11. Occupational Therapy—Extensions to Buildings	50,000	..	..	..	50,000
Middleton Hospital					
12. Construction of Administrative Block and Store	1,000	82,000	..	..	83,000
13. New Cubicle Ward	..	320,000	..	..	320,000
14. Renovations to Disinfecting Building	..	15,000	..	..	15,000
15. Staff Quarters	..	..	435,000	384,000	819,000
Woodbridge Hospital and Trafalgar Home					
16. Ancillary Works	30,000	..	..	..	30,000
17. Co-operative Store—Trafalgar Home	15,700	300	..	..	16,000
18. Improvements to Water Supply ..	70,000	..	..	..	70,000
19. Recreational Hall—Woodbridge Hospital	16,500	..	..	..	16,500
Kandang Kerbau Maternity Hospital					
20. Ancillary Works	60,000	..	..	..	60,000
21. Conversion of one Garage into Drivers' Duty Room ..	1,000	..	..	..	1,000
22. Extension to Dispensary and Bulk Store	28,000	..	..	..	28,000
23. Installation of Refuse Incinerator	9,000	..	..	..	9,000
24. Lifts to Ward Block D and O.P.D.	90,000	..	..	..	90,000
25. Extensions and Renovations, Hospital Buildings	4,000	28,000	28,000	28,000	88,000
Outdoor Clinics—17					
26. (Includes 9 combined Clinics and development of Kallang O.P.D.)	558,460	776,540	773,000	772,000	2,880,000
Carried forward ..	3,861,960	3,980,200	2,640,000	8,084,000	18,566,160

TABLE 9.1—*continued*

DEVELOPMENT PROGRAMME FOR MINISTRY OF HEALTH—*continued*

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
Brought forward ..	3,861,960	3,980,200	2,640,000	8,084,000	18,566,160
Personal Health Services					
27. (Maternal and Child Health-cum-School Health Clinics)					
(i) Urban—2	..	130,000	130,000	..	260,000
(ii) Rural (Large 8, small 12)	149,260	424,000	636,000	734,500	1,943,760
Maternity Homes—2					
28. Maxwell Road Hospital ..	430,000	50,000	..	..	480,000
29. 2nd Maternity Home ..	..	..	600,000	..	600,000
Public Health Projects, Quarantine, etc.					
30. Yellow Fever Isolation Hospital—40 Beds	..	100,000	..	..	100,000
31. Modernisations of Quarantine Station	30,000	110,000	50,000	50,000	240,000
32. Launch—Quarantine Station ..	..	100,000	..	..	100,000
33. Permanent Anti-Malarial—Anti-Mosquito Works	10,000	490,000	750,000	750,000	2,000,000
Health Education					
34. Auditorium Equipment, Offices ..	..	200,000	..	..	200,000
35. Field Training Centre: Training Ancillary Health Personnel ..	30,000	100,000	100,000	..	230,000
Health Branch					
36. Improvements to Buildings and Grounds	42,000	..	..	..	42,000
Para-Health Projects					
37. Markets	18,600	1,026,300	1,027,500	1,206,500	3,278,900
38. Incinerators—1 Urban, 2 Rural (plus tractors)	..	100,000	100,000	..	200,000
Dental Services					
39. Dental Centre for Training Dental Nurses, Technicians, etc. ..	95,000	100,000	..	..	195,000
40. 10 Dental Clinics and 1 School Clinic	60,000	259,000	150,000	150,000	619,000
41. Dental Services—Dental Mechanics Laboratory	20,000	..	..	..	20,000
Other Projects					
42. Pharmaceutical Services Manufactory	36,820	74,000	..	..	110,820
43. Government Medical Store—improvements and renovations ..	20,000	..	..	..	20,000
44. Chemistry—Integration ..	25,500	55,000	..	..	80,500
45. Institutional Quarters ..	200,000	400,000	500,000	500,000	1,600,000
46. Furniture and Equipment Development Expenditure	1,069,260	..	..	..	1,069,260
47. Construction of Roads and Drains	22,000	55,000	75,000	60,000	212,000
48. Slaughter Houses	..	2,027,000	950,000	655,000	3,632,000
Total ..	6,120,400	9,780,500	7,708,500	12,190,000	35,799,400

Hospitals

District Hospitals

9.11. The first District Hospital at Thomson Road which was opened towards the end of 1959 would require about $1.7 million within the first two years of the Plan for the completion of the New Theatre Block, X-ray Department, Dental Department, Casualty Reception and Special Outpatient Clinics. These would complete the essential services without which it could not effectively relieve pressure on the General Hospital.

9.12. A second District (General) Hospital, to be located at Geylang, providing additional 400 beds and polyclinic is planned within this four-year period. The completion of this would bring up the total of hospital beds to about 6,000. As early as 1953 the former Director of Medical Services had estimated that 5,000 beds were immediately required for Singapore and that on the existing population trends, 250 additional beds would be required for each subsequent year. The additional District Hospitals cannot therefore meet the requirements of hospital beds but will relieve the congestion and heavy demands for beds at the General Hospital to some extent.

9.13. The District Hospitals will provide a level of service which will cost about $10 per patient per day compared with the high cost of $27 per patient per day at the General Hospital. The development of District Hospitals would relieve pressure on the General Hospital which in turn could provide more specialist services, investigations and treatment.

Hospital for Chronic Sick and Mental Defective Institution

9.14. Standard hospital blocks have already been completed in the grounds of Woodbridge Hospital. These will provide accommodation for 400 patients. An administrative block for officers, kitchens, physiotherapists and almoners rooms is required to complete these as a hospital unit. A sum of $450,000 would be required for these ancillary buildings in the Woodbridge Hospital area, while furniture and equipment would need about $200,000. Development of this project would release beds at the General Hospital and Tan Tock Seng Hospital for other patients.

General Hospital

9.15. A total of $3.8 million has been estimated for the further development of General Hospital within the Plan period. The main development would be the extension of the Orthopædic Department which would require about $1.8 million and the improvement of facilities in the Radiotherapy Department which would require about $1.3 million.

9.16. The development of the Orthopædic Department is a continuing programme which was started in 1957 with the building of a Burns Unit at the General Hospital. The plans were phased out mainly to minimise interference with the working of the unit. Part II of the First Phase which is the construction of a new X-ray Unit and the building of laboratory rooms are under way now. The Second Phase of the project will consist of the renovation and extension of theatres and ancillary rooms, alterations to the wards which will increase bed accommodation by 40 beds and the extension of Outpatient Clinic facilities. Phase III will see the completion of operating theatres and the sterilising and plaster rooms, still further extensions to the wards, Occupational Therapy Department and Outpatient Clinics. The completion of this project is of priority as present conditions are unsatisfactory. There are 2 units having to occupy space designed for one Surgical Unit, while space for seeing out-patients, new cases and casualties is grossly inadequate. The X-ray Unit is now using the room which was formerly a duty room.

9.17. The Radiotherapy Department has three X-ray Therapy Units for the treatment of certain malignant diseases and other conditions which require X-ray therapy. These machines are out-moded and are constantly breaking down. They are also not capable of treating all types of conditions requiring deep X-rays. There were about 1,000 cases of malignant diseases admitted to various hospitals in 1958, and about 2,000 in 1959. Of these, only about 400 or roughly a quarter were treated by radio-therapy. The scope of treatment would be increased if more suitable equipment such as linear accelerators, Cobalt or Caesium units could be installed. These machines and equipment will require a separate building to house them in order to reduce radiation hazards. The development is therefore phased out. The cost indicated in the table is however a very rough estimate. Enquiries are being made to see if this equipment can be obtained through Colombo Plan aid. The provisional estimates are $950,000 for Works and Buildings together with about $350,000 for equipment phased over 1963/1964. It is estimated that the scope for treatment of treatable malignant conditions would be increased about three-fold when this development project is completed.

9.18. Another major development of the General Hospital is the proposed Third Medical Unit which would increase bed accommodation for general medical cases by 100–120 beds. The present medical units at the General Hospital provide 300 beds. The demand for hospital beds is so heavy that only very sick patients requiring hospitalisation can be admitted and even with admission these patients are turned out prematurely to make space for more acutely ill patients. A sum of about $140,000 is required for this project which is immediately needed.

Tan Tock Seng Hospital (for the treatment of tuberculosis)

9.19. The main provision of $1.55 million is for the Thoracic Unit which requires an Operating Theatre block with ancillary rooms and X-ray Departments. The Tan Tock Seng Hospital which has accommodation for more than one thousand patients is in need of its own Operating Theatre suites and surgical team to deal with the many cases which require surgical treatment. At present these patients who require surgical treatment are sent to the surgeons at the General Hospital. The waiting lists are long and it is usual for the patients to wait about two years before being operated on. Facilities should be provided for these patients to benefit from surgical treatment as soon as a decision for such treatment is taken. This will reduce the mortality as well as cost of drugs and social welfare aid to maintain them during their long waiting period. Of the sum estimated for this project, about $750,000 would be required for works and buildings and the balance for equipment. Maintenance costs would be almost $1 million a year.

Middleton Hospital

9.20. About $1.2 million would be required for developing this hospital over the Plan period. The main scheme will provide a new cubicle ward. With increasing admissions in the hospital, it is necessary to increase the number of beds. At present there are only 250 beds available and a second cubicle ward will meet the demand especially for observation cases and for isolation cases with multiple infectious diseases. The projected new cubicle ward would need $300,000 and about $20,000 for furniture and equipment.

9.21. Other schemes include the construction of an Administrative Block and Store, erection of Staff quarters and renovations to the Disinfecting Building. The present existing accommodation offered for administration is very unsatisfactory. It is without adequate storage space and office accommodation. The existing building is over 50 years and is inadequate for present needs. Quarters for

Attendants, Staff Nurses and Sisters are required. At present very few staff are housed. It is necessary to house at least one-third of each category of staff for emergency purposes and also to facilitate quarantine of staff in any major outbreak of infectious disease.

Woodbridge Hospital and Trafalgar Home

9.22. A co-operative store is planned for the patients at Trafalgar Home and a recreational hall for Woodbridge Hospital.

Kandang Kerbau Maternity Hospital

9.23. Various improvements and extensions to present facilities would require about $280,000 for the Plan period.

Outdoor Clinics

9.24. The proposal to build Public Dispensaries is as follows. Each Public Dispensary is designed to deal with 500 patients a day; on this basis the number of dispensaries which is immediately required is 14. The increase in population will result in an estimated increase in the load by 350 patients per day per year. This would mean the development of an average of 4 new clinics in each of the next four years, thus making a total of 17 clinics by 1964. About $2.9 million would be required for the implementation of this scheme. This includes provision for the development of the Kallang Outpatient Clinic.

Personal Health Services

9.25. It is planned to expand the Maternal and Child Health-cum-School Health Services. Within this Plan period, it is envisaged that some 22 Maternal and Child Health-cum-School Health Clinics would be set up (2 in the urban area and 20 in the rural area). The provision of large and small Maternal and Child Health Centres in developing areas is based on an assessment of need from present experience. The localities have been selected in developing areas to meet the growing need of the population. It is considered that a total of 10 large centres and 12 small centres are required.

9.26. In addition to these Clinics, two Maternity Homes have been planned. The present Maternity Hospital at Kandang Kerbau Hospital has about 200 beds for maternity cases. At present over 32,000 babies are delivered in this hospital a year. The demands are too heavy and the cost of maintaining each patient in this hospital is over $25 per day. About half the cases handled at Kandang Kerbau Hospital do not require specialist care. To relieve the congestion at this Maternity Hospital so that the work there can be concentrated on those special or complicated cases, the two District Maternity Homes are planned. The first Home would be the conversion of the old St. Andrew's Hospital Building at Maxwell Road which would provide 120 beds. A second Maternity Home of comparable size to handle another 12,000 cases a year is planned for 1963. The two homes will be able to handle 24,000 cases a year at an approximate cost of $10 a day per patient.

Public Health Projects

9.27. *Yellow Fever Isolation Hospital*—The provision of a Yellow Fever Isolation Hospital is an internal quarantine requirement of utmost importance in a yellow fever reception area. Singapore is a yellow fever reception area and the threat of an introduction of this disease is very real. Therefore, the isolation hospital required is one of the front-line barriers against the introduction of yellow fever. Location of this hospital has been planned to be at the International Airport.

9.28. *Modernisation of Quarantine Station*—The Quarantine Station has not undergone any major structural changes or modernisation since the war. It is now more than 20 years and the general conditions at the Quarantine Station have to be improved in keeping with the generally rising standards of international travellers. The type of accommodation originally offered for the "immigrant" can no longer be regarded as acceptable to international travellers.

9.29. *Launch—Quarantine Station*—The provision of an additional launch will enable more expeditious clearing of ships coming from infected ports. The launch will also be required for visits of inspection in respect of rodent examination of goods carried on ships, etc., where required.

9.30. *Permanent Anti-Malarial Works—Island Wide*—The extension of permanent anti-malarial works to the rapidly developing centre of population and housing estates in such areas as Sembawang Hill Estates, Changi, Jurong, Woodlands and in resettlement areas in Bukit Timah, Bukit Panjang and Sembawang is a matter of urgent necessity. It will also serve as a means of developing land for public use.

Health Education Projects

9.31. The extension and development of the Health Education Programme of the Government requires additional facilities and equipment. The provision of an auditorium with facilities for the use of audio-visual aids for the training of large groups of health workers is planned. This project requires $200,000 scheduled for 1962.

Field Training Centre

9.32. The Ministry of Health will have a large group of ancillary health personnel under its charge. Besides Public Health Inspectors for whom training facilities already existed, Cleansing Inspectors, Markets and Hawkers Inspectors, Anti-Malarial Inspectors and other grades of health personnel will require training both academic as well as in the field. Development of Field Training Centres in two widely separated parts of the island would meet this need and could also operate as a basis for the field training of other health personnel such as Health Visitors, etc. The localities for the 2 centres would be Geylang Town Centre and Bukit Batok.

Para-Health Projects

9.33. *Erection of New Markets*—The problem of hawkers in Singapore is a major one and in this project it is envisaged to contain hawkers within markets so that control both in matters of hygiene and licensing may be effectively implemented. It is the intention of this Ministry to contain hawkers within areas so that they will not ply in the public streets thereby causing obstruction to the normal channel of traffic.

9.34. *Incinerator Conversion*—The present incinerator is about 30 years old. It is very expensive to maintain and the plant has ceased functioning since June 1959. The present system of disposal of refuse is by controlled tipping and is not satisfactory. It is therefore necessary to renovate and convert the existing machinery so as to make it economical and more efficient. For conversion of the incinerator, $200,000 would be required.

Dental Services

9.35. In a population in which almost everyone requires dental treatment and attention it is not possible to provide these services except to those who have acute dental conditions such as toothaches and conditions which require dental extractions, and those persons who cannot afford treatment by private practitioners. It

is therefore necessary to concentrate dental resources on the preventive side by the provision of dental treatment for school children, mothers and pre-school children. A dental centre consisting of a Dental Nurse Training School together with the ancillary rooms, Dental Mechanics Training facilities and an extension of the existing school dental clinic is planned at the Institute of Health. Another large school Dental Centre is to be developed at Pegu Road. Each subsequent year will see the development of small dental units at various Maternity Child Health Centres on an average of five units of two dental chairs each per year.

9.36. The Dental Treatment and Training Centre would be on the 1st, 3rd and 5th floors of the Institute of Health. It is hoped that this Centre might well develop into a centre for research in dental public health.

9.37. A School Dental Clinic in the compounds of the Pegu Road Outpatients Clinic and some 20 Dental Huts in certain schools are also planned.

Other Projects

9.38. The main projects grouped under this head are as follows: —

(1) Pharmaceutical Service Development;

(2) Extension to Chemistry Department;

(3) Slaughter Houses.

Pharmaceutical Service Development

9.39. Proposals for the development of the Pharmaceutical Services are for the extension of the tablet factory and extension of facilities for the sterile preparations. The tablet factory is at present housed in a room 20′×30′; it contains machines of all types which are too close together. There is danger of contamination and adulteration of drugs and hazard to health. The output of the factory doubled within one year from 58 million tablets in 1958 to 90 million tablets in 1959 and is continuing up at the rate of 30 per cent. A further increase is expected with the integration of the City Health Services. The sterile preparations room is a small one 30′×80′ where there are seven autoclaves plus assorted stills and ovens. The danger of the contamination of the solutions is present in these cramped spaces, and the factory produces more preparations than it should normally do.

Extension to Chemistry Department

9.40. As a result of the integration of the Department of Chemistry and City Council Analytical Department, it is necessary to extend space at the former to accommodate the latter.

Slaughter Houses

9.41. The present sheep and cattle abattoirs at slaughter houses at French Road are antiquated. The present standard of slaughtering of animals is below health requirements and grossly inadequate to meet present demands. It is over 50 years old. A more modern plant should be built as soon as possible.

EDUCATION

9.42. The Education Plan may be discussed in two parts. The first consists of development projects of the Ministry of Education and the second consists of development projects of the Polytechnic.

Ministry Plan

9.43. Education in Singapore is provided by the following categories of schools:—

(*a*) Government schools (about 329);

(*b*) Aided schools (about 329) which receive financial aid from Government in the form of salaries for staff and capitation grants as well as dollar-for-dollar grants for approved capital projects;

(*c*) Private schools (a small number).

9.44. Of the total of 658 Government and Government-aided schools, about 555 are primary schools and 103 are secondary or middle schools and full schools. Cutting across these groups are the different media of instruction, namely English, Chinese, Malay and Tamil. In 1960 there were about 341,500 children in school, 285,000 of whom were in primary schools and 56,000 in secondary schools.

9.45. The Plan is geared to the needs of a fast growing population with special attention to the need for training other than formal schooling to meet the anticipated industrial expansion. The projects formulated have two main aims:—

(i) to provide at least 2 years post-primary education with a *vocational* bias for those who want it.

(ii) to provide more schools for secondary education with a *technical* and *science* bias.

9.46. Provision has to be made for intake of primary school children in excess of primary school leavers. For the development programme of secondary education, it has been assumed that of the primary school leavers—

(i) 25 per cent will continue their education in the grammar-type of school.

(ii) 20 per cent will be found places in secondary schools for a four-year course with technical and science bias—preparatory to Polytechnic and universities' entrance.

(iii) 5 per cent will be found places in schools for a four-year commercial course.

(iv) 50 per cent will be found places in schools providing for a two-year vocational type of education. To date most of these unsuccessful candidates for entry to secondary school would have to leave school.

9.47. In terms of pupils, the estimates of increases for the next 4 years are as follows:—

TABLE 9.2

EXPECTED INCREASES OF PUPILS 1961-1964

Type of School	*1961*	*1962*	*1963*	*1964*	*Total*
Primary	20,300	14,390	11,700	10,760	57,150
Vocational/Commercial ..	17,720	16,290	7,920	8,820	50,750
Grammar/Technical ..	4,640	750	7,370	13,030	25,790
Total ..	42,660	31,430	26,990	32,610	133,690

9.48. The Plan recognises and gives place to the need to expand teacher-training facilities as well as to continue support for university development, both the Nanyang University and University of Malaya.

9.49. To meet the need of increases in pupils, the following new schools will be required:—

TABLE 9.3

MINIMUM NUMBER OF NEW SCHOOLS REQUIRED 1961–1964

Type of School	*1961*	*1962*	*1963*	*1964*	*Total*
Primary	11	8	6	6	31
Vocational/Commercial ..	9	9	4	5	27
Grammar/Technical ..	3	1	5	9	18
Total ..	23	18	15	20	76

9.50. To achieve a more uniform rate of growth, 7 primary buildings, 7 vocational/commercial school buildings and 5 secondary school buildings per year are planned.

9.51. Provisions are made for assisting university development and expansion of the Teacher's Training College. There is also a plan for a new Headquarters for the Ministry.

9.52. The following projects have been formulated to meet the educational needs of the State in accordance with the policy enunciated above:—

(1) *Primary Schools Project*—Average of 7 per year, 1961–1964

This caters for the normal intake of the excess of children entering primary school over children leaving. At the present stage of development, a place in primary school is already assured for every child of school-going age desiring to be admitted. Expansion of primary schools is required to meet population increase if the present levels reached by the primary school facilities are to be maintained. For this project, 780 new teachers will be required for 1961 and 420 addditional teachers for each of the years 1962–1964.

(2) *Post-primary Schools Project*—7 per year, 1961–1964

This project is designed to absorb those who fail to gain entrance to secondary schools (estimated at 50 per cent of primary school leavers). These will have a further two years education including handicraft training. The commercial courses for the 5 per cent of those expected to pass Primary VI would also be making use of these buildings. This project requires an average annual increase of 420 teachers from 1962–1964.

(3) *Secondary Schools Project*—Average of 3 per year, 1961–1964

This project would absorb the successful 25 per cent of primary school leavers for 4 years academic education. A total of 658 additional teachers are required for this project for the entire period.

(4) *Technical Schools Project*—Average of 2 per year, 1962–1964

This project would provide 4 years of technical education for some 20 per cent of primary school leavers. A total of 463 technical teachers would be required for the period of the Plan. There is some doubt whether sufficient numbers of adequately qualified technical teachers would be available.

(5) *Headquarters Project*

Provision has been tentatively made for new accommodation for the Ministry which would replace the present Headquarters buildings which are in poor repair as well as release Kay Siang School to its proper function.

(6) *Teachers Training College Project*

This provides for completion of the original scheme for Paterson Road by building a Hall and Library. In addition, two more lecture room blocks are planned on the same site since development on Aljunied Road site would not be economical. The expansion is planned for 1961/1962. Staff requirements have been included in the Secondary Schools Project.

(7) *General Extensions Project*

This provides for improvement and expansions to various existing schools. These improvements include playing fields, provision of servants' quarters especially in rural areas.

(8) *University of Malaya*

This project provides $171,000 contribution to the University's capital development. This represents 10 per cent of the £200,000 offered by the Colonial Development & Welfare Fund to the University. In addition to this, an annual grant of $4 million would be given in 1961 with an increased provision of up to $6.5 million after 1962 for the development of the University of Singapore.

(9) *Capital Grant-in-Aid*

This project is intended to cover applications from grant-in-aid schools for expansion and modernisation as well as for new schools. These grants are estimated at $6 million for the Plan period. In addition, aid in the form of salaries for staff and capitation grants would amount to about $3.1 million for 1961–1964.

Nanyang University

Government assistance for this cannot be clearly envisaged at the present time. Government has offered to subsidise the University's running costs to the extent of $2.115 million per year.

9.53. Table 9.4 below summarizes the Education Development Programme for the next four years:—

TABLE 9.4

EDUCATION DEVELOPMENT PROGRAMME 1961–1964

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Land Acquisition	1,484,500	2,337,000	2,500,000	2,500,000	8,821,500
2. Primary and Post-Primary Schools Building Programme ..	6,380,000	6,500,000	6,500,000	7,500,000	26,880,000
3. Secondary Schools Building Programme	4,354,500	4,100,000	4,000,000	3,000,000	15,454,500
4. Technical Schools Building Programme	2,050,000	4,400,000	4,000,000	2,500,000	12,950,000
5. Equipment, furniture and fittings for schools	1,647,000	2,206,000	1,750,000	1,105,000	6,708,000
6. Headquarters Project ..	..	505,000	500,000	500,000	1,505,000
7. Teachers' Training College ..	37,840	1,857,160	1,000,000	..	2,895,000
8. General Extensions (including quarters) and improvements..	973,000	720,000	700,000	700,000	3,093,000
9. Contribution to University of Malaya	171,000	..	..	..	171,000
10. Polytechnic	1,869,930	2,149,180	3,402,700	2,513,300	9,935,110
11. Capital Grants-in-Aid ..	3,073,230	1,000,000	1,000,000	1,000,000	6,073,230
Total ..	22,041,000	25,774,340	25,352,700	21,318,300	94,486,340

9.54. Total requirements for the above projects amount to about $85 million for capital expenditure for the Plan period, or almost 10 per cent of the total capital requirements of both Government and statutory bodies.

Polytechnic

9.55. The first phase of development for the Polytechnic was completed by the end of 1958. The first term opened on 3rd November with 2,700 students attending classes in the five departments of General Education, Science and Technology, Engineering, Building and Architecture, and Commerce. A course in Nautical Training was also available. Of the enrolment, 400 were full-time students, 500 were part-time students released by employers to attend for one whole day and two evenings per week, while the rest were evening students.

9.56. Reorganisation was carried out in 1959 to place emphasis on technical training; as a result, the present Polytechnic comprises the following four departments: Engineering, Architecture and Buildings, Accountancy and Nautical Department.

9.57. It is anticipated that long-term development for the Polytechnic would take the lines of concentrating the administration and higher technical education with associated laboratories and workshops on the present Polytechnic area. Complementary to this would develop a number of annexes on various parts of the island where craft level and lower level technician work could be taught near the places where the people work and live.

9.58. The Plan is geared to the anticipated requirements of the State for technical education (other than that available in secondary technical and vocational schools), on the assumption that industrialisation would be proceeding at a moderate rate.

9.59. Figures for the estimated yearly intake of students for the next four years are given in the table below which gives the breakdown for full-time and part-time courses by departments.

TABLE 9.5

FULL-TIME COURSES—ESTIMATE OF STUDENTS 1961–1965

	Dept. of Engineering			*Dept. of Architecture and Building*			*Dept. of Accountancy*	
Session	*Prof.*	*Tech.*	*Craft*	*Prof.*	*Tech.*	*Craft*	*Prof.*	*Total*
1961/62 ..	205	411	440	211	80	240	230	1,817
1962/63 ..	239	428	480	243	120	240	240	1,990
1963/64 ..	268	428	480	251	120	240	214	2,001
1964/65 ..	268	428	480	254	120	240	214	2,004

PART-TIME COURSES—ESTIMATE OF STUDENTS 1961–1965

1961/62 ..	—	722	1,000	25	289	450	185	2,771
1962/63 ..	—	859	1,040	25	320	540	245	3,029
1963/64 ..	—	883	1,040	25	400	540	305	3,193
1964/65 ..	—	960	1,040	25	400	540	340	3,305

9.60. On the basis of the above, a plan for the development of the Polytechnic has been formulated in two phases. These are Phases II and III as development for the next four years could best be seen as a continuation of Phase I. Phase II of higher priority requires some $3.8 million. The expenditure is more concentrated on the first three years. Phase III requires some $3 million for acquiring land and new building works, and about $2.2 million for equipment fittings and other expenditure. It has to be noted that the phasing merely spreads out development expenditure and that the development projects for Phase III are *necessary* complements of Phase II.

9.61. In terms of buildings and workshops, extensions are planned in Phase II to take place on the present site. The two main items are a workshop block and a classroom and laboratory block. On the estimated need, the former would be required for use by the middle of 1961, while the latter by the middle of 1962. These buildings, together with minimum furniture, fittings and laboratory equipment require about $2.1 million.

9.62. Phase III has no provisions for Works and Buildings requirements as it is proposed that the Polytechnic would take over the land, buildings and equipment of Balestier Junior Trade School. It is expected that development in Phase III could take the form of suitable allocation of accommodation. The capital expenditure for Phase III would largely go to equipment, furniture and fittings. In the event of this take-over not being realised, a sum of $3 million spread evenly over 1962–1964 has been provisionally allocated for buildings and land as yet unspecified.

9.63. The main projects for Polytechnic development aside from the requirements for extensions discussed above could be summarised as follows:—

(*a*) *Requirements for existing laboratories and workshops*

More equipment of an advanced nature would be required for more specialised courses as well as to cater for more students.

In this connection, the following sums would be required for the entire four-year period:—

	Phase II	*Phase III*
	$	$
(i) (*a*) Mechanical Engineering	140,000	125,000
(*b*) Mathematics ...	4,000	..
(ii) Production Engineering ...	160,000	400,000
(iii) Electrical Engineering ...	228,000	160,000
(iv) Department of Architecture and Building ...	120,800	45,500
(v) Department of Accountancy	20,000	10,000
(vi) Nautical Department ...	30,000	90,000

Table 9.6 gives the phasing of this expenditure.

Installations for the above items would require $54,000 in Phase II and a further $63,000 in Phase III with the bulk concentrated in 1963 and 1964.

(*b*) *Developments in existing Departments*

There are two schemes projected here. The first one is based on the realisation that *chemical engineering courses* would be required at least at technicians level in the near future and perhaps at a professional level later (Phase III). A sum of $100,000 in Phase II

has been estimated as requirements for equipment in this connection and a further $400,000 for Phase III. These figures are subject to change in the light of recommendations of some future visiting expert.

The second scheme is that of setting up a teaching *foundry* in view of the development of an iron and steel industry. A provisional sum of $100,000 for this item in Phase III has been included.

(c) *New Developments*

Three main schemes fall into this category.

(i) *Printing*—A new department for this might be needed when printing trades expand in Singapore. Equipment would require $200,000 in Phase II for 1961/1963 and another $200,000 in Phase III for 1963/1964. It is proposed that this department could at a later stage be moved to one of the annexes.

(ii) *Industrial Research Unit*—This unit would have the function of assisting industrial development with research, design and testing. It is planned to set this up in the Polytechnic as it would be uneconomical to duplicate costly equipment required by the unit. If it is housed in the Polytechnic, then only some specialised equipment would be needed. Tentative provisions for this unit have been made. The Report of the Colombo Plan expert from New Zealand on the establishment of the Industrial Research Unit has been received by Government and immediate steps have been taken to implement his recommendations. It is hoped that with further Colombo Plan assistance from New Zealand, this unit could be set up fairly soon. The unit would be composed of professional engineers—physicists, chemists, metallurgists and technicians and workshop staff. It will be headed by a Director and managed by a Committee separate from the Polytechnic Board of Governors. It is planned to include representation of industrial interests on the Committee.

(iii) *Aptitude testing*—This scheme is designed to reduce wastage in technical education and in industry. Initially personnel required would have to be obtained under Colombo Plan before local staff could be trained to take over. Equipment required would amount to only about $20,000 under Phase III development.

Provisions have also been made for the further development of the library.

Visual and Audio-aids in connection with development of the Polytechnic need $70,000 in Phase II and a further $50,000 in Phase III.

Furniture and various costs of administration would require $150,000 for Phase II and $60,000 for Phase III.

TABLE 9.6

SINGAPORE POLYTECHNIC DEVELOPMENT PROGRAMME

Projects	Phase I and Phase II				Total	Phase III				Total
	1961	1962	1963	1964		1961	1962	1963	1964	
	$	$	$	$	$	$	$	$	$	$
1. Further Development of Phase I	869,930	204,880	..	..	1,074,810	..	..	..	..	..
2. Workshop Block ..	1,000,000	50,000	..	..	1,050,000	..	..	..	..	..
3. (*a*) Extension Block *B* ..	..	340,000	710,000	..	1,050,000	..	..	..	..	..
(*b*) Buildings and land unspecified	..	..	..	..	..	..	1,000,000	1,000,000	1,000,000	3,000,000
4. (*a*) Mech. Engineering ..	..	17,500	92,500	30,000	140,000	..	20,000	60,000	45,000	125,000
(*b*) Mathematics	..	1,000	1,000	2,000	4,000	..	..	..	..	..
5. Production Engineering ..	..	100,000	60,000	..	160,000	..	..	200,000	200,000	400,000
6. Elec. Engineering	..	60,000	83,000	85,000	228,000	..	20,000	75,000	65,000	160,000
7. Architecture and Building ..	..	64,300	23,200	33,300	120,800	..	27,500	9,000	9,000	45,500
8. Accountancy	..	20,000	..	..	20,000	..	10,000	..	..	10,000
9. Nautical	..	17,000	1,000	12,000	30,000	..	..	90,000	..	90,000
10. Installation	..	21,000	20,000	13,000	54,000	..	6,000	33,000	24,000	63,000
11. Library	..	..	40,000	80,000	120,000	..	..	20,000	20,000	40,000
12. Visual and Audio Aids ..	..	40,000	10,000	20,000	70,000	..	..	20,000	30,000	50,000
13. Furniture, Telephones, Admin. etc	..	20,000	40,000	90,000	150,000	..	..	30,000	30,000	60,000
14. Engineering	..	50,000	25,000	25,000	100,000	..	..	300,000	200,000	500,000
15. Printing	..	50,000	100,000	50,000	200,000	..	..	100,000	100,000	200,000
16. Industrial Development Unit ..	..	..	50,000	150,000	200,000	..	..	200,000	200,000	400,000
17. Aptitude Testing	..	..	..	..	..	..	10,000	10,000	..	20,000
Total ..	1,869,930	1,055,680	1,255,700	590,300	4,771,610	..	1,093,500	2,147,000	1,923,000	5,163,500

9.64. The Social Welfare Department is Government's agency for administering help to all categories of people in need. The aged and infirm, the widows and orphans, the permanently disabled, the women and girls in need of protection, the juvenile delinquents, the unemployed, the victims of fire and flood all have a place in the services offered by the Social Welfare Department. In addition, a more positive function, that of community recreation, is another concern of this department.

9.65. The development projects for this Department represent no dramatic introduction of new services, but rather extensions and improvements of existing services.

9.66. In a personalised service such as the social welfare service, what is perhaps more significant is the vast improvements which are possible without necessarily being reflected in the amount of capital expenditure required. The projects alone do not constitute all the possible development of this service.

9.67. In the field of Community Recreation, the programme for extensive building of Community Centres in areas which began in 1960 would be pursued during the Plan period. Building would be on a decentralised basis so that any district would be in easy reach of a Centre. The Centres are to be administered by the Singapore People's Association which receives a grant from the Government. It is estimated that at least six more centres would be built each year.

9.68. In the care and protection of women and girls, it is envisaged that institutional requirements for rehabilitation would increase with the proposed increase in the maximum age limit of girls liable for detention and rehabilitation in Homes. The planned extension to the existing Girls' Home, Mount Emily, to increase the capacity by twenty is required to meet part of this need. In addition, a Girls' Approved School with a capacity for about 40 girls and residential staff is required where the younger delinquents could be rehabilitated. To date, they are housed together in the Girls' Homecraft Centre with destitute children, which mixture is inappropriate and might have undesirable effects.

9.69. As an extension of the scheme, a Girls' Hostel with accommodation for 40 girls and residential staff is planned to accommodate girls who have been successful in obtaining jobs and have been discharged from the Approved School or Girls' Home. This would help those who otherwise have no alternative but to return to an unfavourable environment.

9.70. The same argument for a girls' approved school applies to the need for a Junior Approved School for boys between 10 years and 14 years. To date, they are housed together with boys of 14 years to 18 years at Gimson School which is already overcrowded. The projected capacity of the Junior Approved School is between 120 and 140. The School would have two storeys with dormitories for 20 boys each. There would be a classroom, dining room, kitchen, laundry, gymnasium, dispensary, sick bay and quarters for residential staff.

9.71. Lastly, the need to provide better services for the aged is given its place. A Rural Settlement is planned for improving facilities for care of the aged. It would take the form of 20 barrack-type buildings to accommodate some 500 old people (males and females). The environment selected for this scheme would be more pleasant than the present Home and availability of land makes gardening activities possible as well as allows for future expansion. The Settlement is to be sited on 25 acres of Crown Land in Jurong.

9.72. The above statement of needs and policy translated into projects and money terms are summarised in the following table:—

TABLE 9.7

SOCIAL WELFARE DEVELOPMENT PROGRAMME 1961-1964

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Extension to Mt. Emily Girls' Home	60,000	..	..	..	60,000
2. Girls' Approved School	50,000	..	..	..	50,000
3. Girls' Hostel	20,000	..	..	..	20,000
4. Junior Approved School* ..	100,000	270,500	200,000	..	570,500
5. Muslim Welfare Home	20,000	19,200	..	..	39,200
6. National Recreational Centre		20,000	..	..	20,000
7. Rural Settlement		200,000	402,000	400,000	1,002,000
8. Improvement to Buildings and Grounds	10,000	..	..	..	10,000
Total ..	260,000	509,700	602,000	400,000	1,771,700

CULTURE

9.73. This Ministry has the important task of reaching out to the people and instilling a cohesive spirit of national loyalty. This can only be achieved in the light of the creation of a truly Malayan nation and a Malayan culture. The State faces many problems and a collective will to solve these can only exist when the people share a loyalty to a common way of life, as typified in the Legislative Assembly or the National Language. The concept of a distinctive national culture will prove very useful when executing plans for economic development and industrial expansion. Differences will be submerged for the progress of the State and co-operation can be obtained from various economic groups. The need is all the more urgent when one looks at some features of the population.

9.74. In this small island people of different racial, cultural and religious groups live side by side economically dependent on one another but not quite so culturally and socially integrated. Some 300,000 or half of the electorate voted for the first time in 1959. Full self-government is also being experienced for the first time; the people have therefore to be made always conscious of their responsibilities in the new political context. Half the population is under twenty-one and a promising start has to be made now so that the near future will see a Malayan people with distinctive institutions, arts and customs.

9.75. The role of the Government in this context is firstly to inform the people so that they may respond and co-operate and secondly to forge a link between the various cultural groups. Each is dependent on the other. All the six divisions of the Ministry are integrated in their effort to accomplish this goal. The development programme for future years is one of expansion of facilities in the various divisions and improvement of mass communication media.

* Total cost $683,000. Balance of $112,500 to be paid from C.D. and W. Funds.

TABLE 9.8

DEVELOPMENT PROGRAMME FOR MINISTRY OF CULTURE

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Extension and Development of Radio Information and Publicity Services	500,000	500,000	500,000	..	1,500,000
2. Broadcasting Studios, Club-house and transmitter	..	250,000	..	..	250,000
3. Other Projects for Development of Broadcasting Division	202,400	..	..	..	202,400
4. Printing Machinery	619,000	..	..	..	619,000
5. Extension to Printing Factory	15,000	..	..	..	15,000
6. Television	2,800,000	2,062,000	1,003,300	..	5,865,300
7. National Art Gallery	..	750,000	..	..	750,000
8. Academy of Arts	..	500,000	..	..	500,000
9. Open Air Theatres including listening sets	46,000	100,000	100,000	100,000	346,000
10. National Library	300,000	450,000	..	..	750,000
Total	4,482,400	4,612,000	1,603,300	100,000	10,797,700

Broadcasting and News Divisions

9.76. A sum of $1.5 million has been earmarked for the extension and development of radio and publicity services. This includes provision of about $400,000 required for a new medium-wave national network to be named "Suara Singapura". This would overcome the reduction in national broadcasting hours resulting from the introduction of commercial broadcasting. Other development projects for the Broadcasting Division include an additional studio for commercial broadcasting and one for recording at Ministry headquarters and an additional short-wave transmitter to replace the present outmoded equipment. It is planned to provide a club-house for technical staff stationed at Jurong which is 15 miles from the City.

Printing Division

9.77. As the literacy rate increases, Government publications will play an increasingly important role. An expanded publication programme is envisaged, making necessary the further purchase of machinery for the Printing Office as well as extension to the factory.

Television

9.78. Television with its strong appeal to the eye and ear will break the language barrier and fight illiteracy. It will also supplement instruction in schools and help in the development of a Malayan culture. In 1961 a one channel television station with film unit will be completed and in 1963 one other channel will be added. A television commercial service will complement future radio commercial broadcasts: it is expected that revenue from this and from licence fees will meet all running costs. Programmes for entertainment would encourage demand for sets. Two channels are therefore necessary to provide sufficient time for both commercial service and entertainment programmes. It is estimated that the cheaper sets could be purchased by those in the monthly group of $400 and above. At least five per cent of the population could be expected initially to see television regularly.

Dewan Bahasa dan Kebudayaan Kebangsaan—Institute of National Language and Culture

9.79. A National Art Gallery to be followed by the establishment of an Academy of Arts has been planned. These would be located within the National Library. The aim is to encourage local talent and focus public attention on the growth of Malayan art.

Publicity Division

9.80. Open-air theatres have been planned for densely populated areas such as Farrer Park, Geylang Serai and Tiong Bahru which will bring popular Aneka Regam Raayat (People's Variety Concerts) and other shows to larger numbers. Until the open-air theatres are completed, portable stages are required and provisions have been made for these. There is also a scheme to expand community listening sets which would assist commercial broadcasting. Within the Plan period, the further development of the National Library is envisaged for which a sum of $750,000 has been earmarked.

SUMMARY

9.81.—(i) Existing standards of social services in Singapore compare favourably with most of the countries in Asia. The continued maintenance of these standards would ultimately depend on economic expansion to match population growth.

(ii) Social Development projects in the Plan period require about $350 million. This represents approximately 40 per cent of total capital requirements for the Plan.

(iii) The development projects for Health, Education, Social Welfare and Ministry of Culture require a total of about $143 million. The Education Plan has the largest claim, requiring over $94 million. The two main aims underlying the Education Plan are: (*a*) to provide at least 2 years post-primary education with a *vocational* bias and (*b*) to provide more schools for secondary education with a *technical* and *science* bias. It has been estimated that over the period 1961–1964 there will be an increase of 133,690 pupils, of which almost 108,000 would require Primary and Vocational/Commercial education and more than 25,000 would require Grammar/Technical education. To meet the need of increases in pupils, an average of 19 schools per year would be required in the Plan period.

(iv) The Plan for developing the Polytechnic is geared to the anticipated requirements of the State for technical education arising from industrialisation programmes.

(v) A new Industrial Research Unit to assist industrial development with research, design and testing would soon be established.

(vi) In the Medical Plan, for which a sum of $35.8 million is required, the main principles on which the Plan is based are (*a*) closer association between the curative and preventive Health Services, (*b*) decentralisation and reorganisation to achieve efficiency and lower running costs and (*c*) adaptation of the services to the special needs of the community. The major projects planned include improving existing hospitals and building of a new District (General) Hospital, 17 Outdoor Clinics, Maternity Homes, improvement of Dental Services and Public Health measures.

(vii) The Development Programme of the Ministry of Culture is one of expansion of facilities in its various divisions and improvement of mass communication media.

(viii) Television would soon be a reality in Singapore. Other projects include a new national network "Suara Singapura", a National Art Gallery and Academy of Arts.

CHAPTER X

SOCIAL DEVELOPMENT—HOUSING AND COMMUNITY SERVICES

HOUSING

10.1. The rapid growth of Singapore over the last one hundred years has resulted in the concentration of population in the City area with acute overcrowding of people most of whom depend on central area activities for their livelihood. The expansion was unplanned and most of the existing buildings are shophouses constructed to meet the requirements of an immigrant commercial community. The majority of these shophouses are very old and in different degrees of dilapidation. Though land values are high and the pressure of population has enforced the mixed use of residential with commercial and industrial activities, there has been very little redevelopment in the central area because of the operation of rent control which pegged rents to their pre-September 1947 levels.

10.2. A survey of the housing needs of Singapore indicates that over the next ten years at least 147,000 housing units will be necessary to provide for the increasing population and to allow for minimum redevelopment of acute slum areas to prevent further deterioration.

10.3. The former Singapore Improvement Trust was responsible for much of the public housing constructed over the years 1947–1959. On the average it built 1,700 housing units a year although in its peak year 3,841 housing units were completed in 1958. If the Housing and Development Board were to carry out government policy of bringing public housing within the means of the lower income groups and to satisfy such demand, a more vigorous programme will have to be followed and a larger number of houses will have to be constructed each year. Greater attention will have to be paid to construction costs and annually recurrent supervision and maintenance expenditure in order to reap maximum benefits from any capital sum invested.

10.4. The Plan envisages the construction of 51,031 units over the period of four years 1961–1964 at the estimated cost of $194.1 million. The construction time of a multi-storey building varies from ten to fourteen months and it is expected that not all the projects initiated will be completed by the end of 1964. It is estimated that 7,096 units will be completed in 1961 at the cost of $34.1 million; 9,735 units costing $40.7 million to be completed in 1962; 9,690 units costing $33.8 million in 1963; 12,750 units costing $44.5 million in 1964. This will leave a balance of 11,760 units costing $41 million to be completed after the period of the Plan.

10.5. The capital costs of the housing units planned are based on average actual contract prices obtaining in 1960. Through various economies and adaptation of design, it is hoped to build future 1-room units at a capital cost of $2,000 per unit, 2-room units at $3,700 per unit and 3-room units at $4,700 per unit. These costs, however, make no provisions for expensive piling or land costs. New units to be built in 1962 and thereafter would comprise 30 per cent of 1-room units, 40 per cent of 2-room units and 30 per cent of 3-room units. The Board plans to achieve maximum possible economy in its housing programme so as to reduce both capital and recurrent costs. It is envisaged that the lowering of expenditure coupled with Government subsidy would make it feasible for future housing units to be let out at rentals of only $20 per month for 1-room units, $40 per month for 2-room units and $60 per month for 3-room units. These rental targets, if achieved, would bring the housing units more within the reach of the lower-income groups whose needs are not catered for by private housing programmes.

10.6. Corresponding to the number of units estimated to be completed for each year the recoverable annual recurrent expenditure will increase by $1.6 million in 1961, $5.5 million in 1962, $9.7 million in 1963 and $14.3 million in 1964. Consideration is being given to the possibility of treating as capital expenditure to be met from loan monies that portion of the Board's Building Department's running costs which relates to supervising and designing new buildings.

10.7. Rents from the new housing units, calculated on the assumption that newly completed units would be occupied for 6 months in the year of completion, are as follows:—

$
2.0 million in 1961
5.6 million in 1962
9.5 million in 1963
14.1 million in 1964

10.8. The main duty of the Housing and Development Board over the period of the Plan will be the construction of the 51,031 units of public housing on land which has been acquired and held for the purpose of housing development by the government. There are some 1,300 acres of this land spread over the West, North and Central Sections of the City. They are mainly concentrated in the West around the Kampong Bahru, Alexandra and Queenstown areas, in the North near the St. Michael and Toa Payoh areas and in the Centre along MacPherson Road, Kallang, Mountbatten and Tanjong Rhu areas. The major building activities will be concentrated in Queenstown in order to complete the five neighbourhoods originally planned, of which two have been fully built, and in the Toa Payoh area where some 500 acres of land have yet to be cleared of settlers for housing. A few contracts for building multi-storey blocks of flats have already been given out for Queenstown and it is proposed to develop the Toa Payoh area over a period of four years in eight phases, building operations to begin in 1962.

10.9. In order to confer the benefits of public housing upon those people most in need of such housing in lower income groups with family incomes under $200 per month and with the size of family ranging from six to twelve persons, a policy of further subsidies must be considered by Government. At present the Board receives a subsidy of about $3 million which helps to meet its annual administrative expenditure. Public housing elsewhere is generally either a local government responsibility or else is exempt from rates by legislation. In addition to subsidies and possibly some relief from normal rates, the Government will have to consider the special burden of low-rental housing which must be built during the next few years on expensive town sites. Further, the Board is responsible for conservancy, maintenance of estate roads and open areas. There are advantages in a system whereby the full extent of the subsidy enjoyed by tenants of public housing is accounted for, instead of concealed. Tentatively, for the purpose of this Plan no change in the assessment rates has been envisaged. Instead, the overall financing of the Development Plan has taken into account the need to meet the expected deficit in the Board's revenue accounts for the years 1961–1964 amounting to about $11.7 million, rising from $1.8 million in 1961, when the total number of units under management of the Board is estimated at 30,387, to $3.9 million in 1964 when the total number of units under the Board's management would reach 62,562 if the planned programme is fully implemented.

10.10. The Board is aware that its housing programme may bring inflationary pressure on the building industry if it is not well phased over the years. Any raising of the construction cost of its housing units will be reflected in rents which will have to be borne by the people in the lower income groups. It plans, therefore, to release its contracts in stages to avoid inflationary effects on building costs. At the same time the Board is also examining the possibility of introducing new methods and techniques of building construction. It is prepared in co-operation with private enterprise to finance the construction of a factory to pre-fabricate components of buildings and to produce them on an assembly line basis so that multi-storey units can be built quickly and efficiently although the final deciding factor will still be costs. This method of construction will augment the capacity of the building industry in the country and afford opportunities for the training of local technicians and craftsmen in new methods of housing construction. So far negotiations have been held with French, Swedish and British/Danish private building interests in the use of standardised prefabricated components. Since a few thousand housing units will be needed each year for many years to come the capital investment by the Housing and Development Board in projects of this nature will not in any way affect the local building industry and can easily be justifiable because of the sustained demand for public housing.

10.11. While the Plan envisages the construction of 51,031 housing units, the sizes of these units are still being constantly reviewed. At present the families to be housed range from the minimum five persons to a maximum of some twelve or more. With increasing numbers of one and two room units being completed it may eventually be possible to cater for the housing needs of families with less than five persons. It is also envisaged that 2 small families may be permitted to share one 3-room unit, although this may raise some management problem. The provision for shops will be in the ratio of one shop for every 50 housing units. These proportions may vary with the localities of the housing estates and will constantly be reviewed in the light of experience.

10.12. The Housing and Development Board cannot assume that after this period of the Plan there will be no further housing development. Hence it cannot utilise the 1,300 acres of land that has been set aside for housing development and not provide replacement for future requirements. For this purpose the Board will require funds over and above the $194.1 million for the immediate needs of the Plan and in order that public housing projects can be continued after the period of the Plan, there is need for further provisions to be made for land acquisition.

10.13. In addition to providing public housing the Board will have to give assistance to the development of industry in the State, such assistance includes the planning, alienation and preparation of sites, the construction of roads, etc. The aim is to induce more industries to be located within easy access of the people who will be rehoused in its major housing estates. The Board works closely with the Industrial Promotion Section of the Ministry of Finance in assisting industry in the provision of factory sites in the rural and suburban areas.

10.14. The Housing and Development Board is also considering the redevelopment of the central areas of the City in order to achieve over a period of time a general renewal of the urban structures. Big blocks of land in the central areas are reverting to Government on the expiry of their 99-year leases. Most of them are occupied and overcrowded with people who earn their living in or around these areas. It is estimated that the construction of new multi-storey buildings in these areas will not solve the rehousing problem as there are possibly more people crowded in these areas than the new buildings can accommodate. With the expansion of industry, however, overcrowding is expected to be reduced by the dispersal of workers to the new industrial areas.

SEWERAGE

10.15. The installation of a modern sewerage system for the City Area began in 1912 and by the end of 1959 there were 271.5 miles of sewers serving a population of about 677,600. The total number of premises served was 38,824. The sewered area is generally very flat and at a low elevation above sea level. This necessitates a comprehensive series of pumping stations and at the end of 1959, 13 such stations were in operation. Plans to extend the sewerage system to cover the entire City Area and some regions beyond the City limits are being drawn up. Sewage is treated in 2 main Disposal Works, one situated in Alexandra Road serving the western and southern parts of the City, the other in Kim Chuan Road serving the eastern districts. In 1959 the average flow was 26,157,000 gallons. Both Disposal Works are seriously overloaded. The extension of the Kim Chuan Works has been completed recently. Meanwhile, it has been decided to abandon the Alexandra Road Works, where the space available is limited, and to replace it with a new treatment works in Ulu Pandan at the cost of $15 million. At present unsewered areas are mainly in the rural area and includes outlying residential areas. Five hundred and three private septic tanks are maintained in these areas by the City Council at the expense of the owners. Also unsewered are the central and more congested parts of the City Area, which were developed before the advent of a sewerage system. Here, sewage disposal is by nightsoil buckets collected by the City Council Cleansing Department and conveyed in a modern fleet of lorries to dumping stations. The provision of temporary branch sewers for these areas has been commenced and by the end of 1959 work within one mile radius of the City Centre had been substantially completed.

10.16. It is planned to improve the present sewerage system so as to avoid present and expected future overloading to stop further rapid deterioration of capital, and to utilise capital now unproductive or not fully utilised. Equally important are the projects for extending the system to cover the areas which are being developed beyond the City limits, and the hitherto unsewered areas in the central and more congested parts of the City area. The following table sets out the estimated requirements for the various sewerage projects:—

TABLE 10.1

DEVELOPMENT PROGRAMME FOR SEWERAGE

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Main Sewers ..	1,500,000	1,800,000	1,900,000	1,900,000	7,100,000
Minor Sewers ..	1,000,000	1,600,000	1,700,000	1,700,000	6,000,000
Other Works, (Sewers, Stores, Apparatus, etc.)	860,000	1,750,000	1,900,000	1,350,000	5,860,000
Sub-Total ..	3,360,000	5,150,000	5,500,000	4,950,000	18,960,000
2. Pumping Stations ..	1,906,000	4,696,160	3,200,000	3,306,602	13,108,762
3. Sewage and Sludge Disposal Works ..	3,755,000	1,865,240	832,900	1,236,860	7,690,000
4. Ulu Pandan Scheme ..	6,700,000	600,000	300,000	..	7,600,000
Total ..	15,721,000	12,311,400	9,832,900	9,493,462	47,358,762

Sewers

10.17. The sewers projects according to present estimates require $18.96 million over the years 1961–1964. Main and minor sewers together require about $13 million over this period. This scale of expenditure is necessary both for more economic use of existing capital as well as for expansion of sewerage services.

The main sewers project is intended to serve existing and new drainage areas of 12" diameter and above, while the minor sewers project will provide sewers of 6" and 9" diameter again in both existing and new drainage areas. This project also includes provision for 'semi-permanent' type of sewers for congested areas which are scheduled for redevelopment in the future.

The provision of $5.86 million phased over the four years under the head of "Other Works" includes about $4 million estimated to be required for sewers in the Toa Payoh drainage area. This development would be co-ordinated with the plans of the Housing Board for the development of a large housing estate at Toa Payoh. Other provisions are for relaying of damaged and subsided sewers, construction stores and cleaning apparatus.

Pumping Stations

10.18. About $2 million would be required in 1961 and more than $3 million per year from 1962–1964 for improvements and extensions of existing stations and erection of six new stations.

The six new stations proposed would be located at Bukit Timah, Pasir Panjang, Robertson Quay, Toa Payoh, Serangoon and Bartley Road. The first three schemes are necessary for reducing present recurrent expenditure on night-soil collection, septic tank maintenance, etc. The six stations are estimated to cost about $6.6 million.

Improvements and extensions of existing stations are expected to cost about $6.5 million over the four-year period.

Sewage and Sludge Disposal Works

10.19. About $7.7 million would be required for this project, the bulk of which would be taken up by the further development of the Kim Chuan Road Disposal Works. It has been estimated that the average daily flow into the present disposal works has increased at an average rate of about one million gallons per year and that this increase would prevail over the next few years particularly from 1962 when additional flows are anticipated from the Siglap and Bedok areas where large housing estates are being completed.

Ulu Pandan Sewage Purification Scheme

10.20. The rapid development of the western areas of the island especially in the Queenstown and Redhill areas, has overloaded the sewage disposal works at Alexandra Road. As these works are in a heavily built up area, there is no scope for expansion. The Ulu Pandan Sewage Disposal Works are to replace the Alexandra Disposal Works with additional facilities for the vast expansion of the population of Singapore. The scheme is now under way and about 70 per cent completed. The total cost of the project will be $14.9 million, of which about $7.6 million will be required within this Plan period for the completion of the scheme.

The development programme for extending and improving the present sewerage system would improve health conditions, especially in those congested city areas which are at present unsewered. Present and future overloading of pumping stations would be avoided, while the new stations would extend the sewerage system to cover the entire city area and some areas beyond the city limits including the Upper Geylang River catchment, the Upper Sungei Kallang catchment, the northern Bukit Timah area, the area westward of Pasir Panjang and villages at Paya Lebar and Tampenis. The completion of the Ulu Pandan Disposal Works and the further extension of the Kim Chuan Road Disposal Works would provide additional facilities to meet the needs of the fast growing population.

10.21. While "community services" in its broad sense would cover a wide range of services which relate to the general well-being of the community, in the context of this Development Plan, those projects which have been grouped under the functional head "Community Services" refer to the following:—

(*a*) Development of parks, swimming pools, playgrounds, open spaces and other public amenities.

(*b*) Development of the Fire Brigade Service.

10.22. The other major community services have been discussed individually. The present group though minor in their claim on expenditure, nevertheless has an importance far greater than denoted by monetary requirements. Projects corresponding to (*a*) but are located in rural areas have been separately dealt with under Rural Development projects (Chapter VII).

10.23. About 60 per cent of Singapore's population live within the City limits. There has been, and still is, a serious problem of congestion particularly in the heart of the City. Even assuming the probable drift to rural areas with the implementation of industrial development projects in suburban and rural areas, the need for "breathing spaces" for the many who have to cram into badly ventilated City houses and slums cannot be overstressed. The provision of parks, playgrounds, swimming pools, and other public amenities are not merely for recreation but a necessary contribution towards better health for the population.

To meet this need an extensive programme for these services has been planned for the City area. The following table summarizes this programme.

TABLE 10.2

DEVELOPMENT PROGRAMME FOR COMMUNITY SERVICES IN THE CITY AREA

Projects	*1961*	*1962*	*1963*	*1964*	Total
	$	$	$	$	$
1. Children's Playgrounds ..	20,000	20,000	20,000	13,000	73,000
2. Parks and Open Spaces ..	175,000	340,000	353,000	300,000	1,168,000
3. Swimming Pools ..	346,000	250,000	300,000	450,000	1,346,000
4. Van Kleef Aquarium Improvement ..	30,000	..	..	..	30,000
5. Equipment for maintenance of parks etc. ..	..	20,000	14,000	10,000	44,000
Sub-Total ..	571,000	630,000	687,000	773,000	2,661,000
6. Fire Brigade	..	1,314,000	1,309,000	786,000	3,409,000
Total ..	571,000	1,944,000	1,996,000	1,559,000	6,070,000

Parks and Open Spaces

10.24. At least 12 schemes have been planned for both development of existing parks as well as new ones. A total of $1,168,000 would be required for the entire period with more expenditure concentrated in 1962–1963. The schemes together with locations of most of them and priority ratings are as follows:—

Priority 1—Improvement and development of minor parks and open spaces, increased seating tiers at Farrer Park Athletic Centre, reconstruction of Spectator Stands at Jalan Besar Stadium.

Priority 2—Construction of multi-purpose area at Farrer Park, construction of Grandstand at Farrer Park Athletic Centre and the further development of King George V Park (new fencing, walls, footpaths, seats, extension of lighting etc.).

Priority 3—Development of Beach Road Reclamation and provision of children's playground equipment, provision of multi-purpose play area at Duxton Plain Parkway, resurfacing roads and provision of parking bays at Farrer Park, construction of Open Air Stage and Band-stand also at Farrer Park, further development of Kallang Park, installation of additional lighting and construction of sea-wall steps at Katong Park, installation of Pump in Purification Plant at Pasir Panjang Park and provisions for other large parks when land is available.

Children's Playgrounds

10.25. Four schemes with high priority rating have been planned for new children's playgrounds and flood-lighting installations on both existing and new ones. The four schemes are:—

(1) Manila Street—construction of multi-purpose area incorporating basket-ball and badminton facilities including park and flood lighting.

(2) Dickenson Road—Installation of flood lighting.

(3) Liang Seah Street—Installation of general lighting and flood-lighting of basket-ball pitch.

(4) Construction of New Children's Playgrounds in urban area.

A total of $73,000 is required under this head of development for the entire four-year period with expenditure evenly phased.

Swimming Pools

10.26. Construction of two new swimming pools at Queenstown and Kallang Park have been planned in addition to provisions for improvements of various existing swimming pools. The two new pools would be located in areas where recent rapid conglomeration of population has taken place as a result of major housing development by the former Singapore Improvement Trust. A total sum of $1,346,000 would be required in the four-year period.

In addition to the above schemes for parks, pools, etc., a sum of $44,000 to be spread over 1962–1964 would be needed to buy tractors, motor mowers, hand mowers etc. for maintenance work.

FIRE BRIGADE

10.27. The State Fire Service is a well developed one. At present there are five stations all over the Island. The Central Fire Station which serves the central City area was built at Hill Street in 1909 and substantially enlarged in 1930. This Station is also the Brigade Headquarters. The other stations are at Geylang, Queenstown, Bukit Timah and Serangoon Roads.

10.28. The Brigade is equipped with the latest fire-fighting appliances and has its own radio network consisting of a main transmitter/receiver on Mount Faber together with some six fixed and 35 mobile stations. Besides fire-fighting, the Brigade also runs an important Accident Ambulance Service.

10.29. Another important function is that of fire protection, i.e., inspections of premises including premises licensed under the various Dangerous Trades By-laws. Advice is given to industrial and public bodies on fire prevention measures.

10.30. Not least important is the training and formation of kampong fire-fighting parties by recruiting young able-bodied men from the kampongs. The success of this scheme has been proved and is an important complement to the Fire Brigade as heavy fire-fighting units often cannot approach close to the fire in a kampong.

10.31. It is considered that only one more station need to be erected to complete the Brigade's requirements for adequately servicing the entire Island.

10.32. Thus, the major scheme of development provides for a new Fire Station for the Thomson Road District. It is expected to be located on Whitley Road near Thomson Road, and land acquisition has been estimated to require $250,000 in 1962. Works and buildings scheduled to begin in 1962 would eventually need about $2.2 million to complete the project in 1964. An additional requirement of $100,000 for piling costs has also been provided.

10.33. This Station would have capacity for four fire engines and 1 ambulance bay and quarters for personnel. The quarters planned would be adequate to enable all Fire Brigade personnel to live in including some who would be housed here, but attached to other stations for duty. This Station would provide quicker service to the North-east of the Island and would serve the Toa Payoh area which would be fast developing.

10.34. There are three other schemes for developing the Fire Brigade Service. The first is the purchase of two replacement major pump fire engines for the Central Fire Station, for which about $90,000 would be required in 1964. These are intended to replace engines bought in 1940 which are now obsolete and spares for repairs difficult to obtain. These engines recently overhauled are expected to last until 1964. The second scheme provides for the expansion of the engine room at the Geylang Fire Station situated at Paya Lebar Road/Sims Avenue and improvement of quarters for personnel. Expansion of the engine room to accommodate 4 fire engines and 1 ambulance is required for the expansion of the City. Present accommodation facilities are poor. The majority of personnel at present have to live out and are therefore not easily available in an emergency. Estimates for total requirements for engine room expansion and 3 Blocks of Quarters amount to more than $700,000 phased over 1962–1963. It is anticipated that land worth about $65,125 would be acquired in 1961 for this project and piling and building to be undertaken over 1962–1963. Recurrent expenditure corresponding to this development would be in the order of $14,000 per year beginning in 1963. The last scheme provides for $18,000 to purchase two ambulances for the Central Fire Station to replace the two bought in 1959 which have covered high mileage and are constantly requiring overhauls. They are expected to last only until 1962 when replacement would be necessary.

SUMMARY

10.35.—(i) The three main services directly associated with the heavy demands by a rapidly growing population are health, education and housing. But owing to the rapidly growing housing needs of Singapore, housing development alone would require more than 40 per cent of the total sum allocated for Social Development.

(ii) The Housing Development Plan envisages the construction of more than 51,000 units over the period of four years 1961–1964 at the estimated cost of $194.1 million. A housing programme of this order would, in addition to meeting demands for housing, allow for minimum redevelopment of acute slum areas.

(iii) New units to be built in 1962 and thereafter are expected to comprise 30 per cent of one-room units, 40 per cent of two-room units and 30 per cent of three-room units. The size of units would be subject to review.

(iv) Major building activities would be concentrated in Queenstown to complete the five neighbourhoods originally planned and in the Toa Payoh area. Other areas for housing development would be along MacPherson Road, Kallang, Mountbatten and Tanjong Rhu.

(v) A large programme for the further development of sewerage has been drawn up to extend the sewerage system to cover the entire City Area and to complement areas of new housing development. A total of $47.4 million would be required for sewers, pumping stations, disposal works.

(vi) The improvement of other community services, particularly the development of recreational facilities—playgrounds, swimming pools, parks and open spaces would require about $2.7 million. These amenities would contribute to the better health of the population.

CHAPTER XI

PUBLIC ADMINISTRATION

11.1. This section includes the development programmes for the Police Force, Prisons Department, Customs and Excise Department and State Advocate-General's Office among others.

POLICE DEVELOPMENT PROJECTS

11.2. Three major groups of schemes may be distinguished:—

(1) Schemes mainly for building offices, stations, quarters, various stores, and improvements to Police Training facilities.

(2) Scheme to replace Police Radio Equipment.

(3) Scheme for expansion of Police Force.

In group (1) some 29 projects are planned at a total estimated cost of $6.4 million. They are discussed in order of priority below.

TABLE 11.1

POLICE DEVELOPMENT PROGRAMME

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Duxton Plain Quarters	..	500,000	..	..	500,000
2. New Special Branch Headquarters ..	..	2,000,000	..	..	2,000,000
3. Power Cable, Bukit Timah Station ..	..	..	23,000	..	23,000
4. Queenstown Police Station and Quarters	..	..	800,000	..	800,000
5. Quarters at Beach Road, Pasir Panjang and Balestier/Thomson Road Stations	..	..	308,000	..	308,000
6. Geylang Police Station and Quarters	..	..	850,000	..	850,000
7. Paya Lebar Police Station—Expansion	..	..	300,000	..	300,000
8. New Police Station at Chong Pang Village	..	..	..	500,000	500,000
9. Village Police Posts—nine ..	..	..	..	90,000	90,000
10. New Entry and Exit for Police Headquarters	..	..	..	20,000	20,000
11. Joo Chiat Police Station—Alteration and Reconstruction	..	..	..	30,000	30,000
12. Police Training School Projects ..	..	..	..	500,000	500,000
13. Spray Painting Shop at Thomson Road Motor Transport Office ..	..	..	..	30,000	30,000
14. Stores at Mount Vernon, Beach Road and Paya Lebar Police Station—four	..	..	..	20,000	20,000
15. Mount Vernon—Improvement of facilities	..	..	..	20,000	20,000
16. Mount Vernon—covered shed for 4 vehicles	..	..	..	20,000	20,000
17. Cavenagh Bridge Station—Development	..	..	..	310,000	310,000
18. New Guard House at P.W.D. Magazine	..	..	..	20,000	20,000
19. Police Radio Equipment ..	593,600	506,400	..	..	1,100,000
20. Installation of Individual Meters in Quarters	60,000	..	..	..	60,000
Total ..	653,600	3,006,400	2,281,000	1,560,000	7,501,000

11.3. About $500,000 is required to complete building of Division III and IV Quarters at Duxton Plain.

11.4. About $2 million would be required for a New Special Branch Headquarters as the present accommodation in the C.I.D. building is congested and is adversely affecting the maintenance of records and personnel working in it.

11.5. A sum of $23,000 is required for a power cable from the Telecoms. Wireless Station to the Bukit Timah Hill Station. This would provide a cheaper alternative source of power supply to having to replace the present two generators in the Bukit Timah Hill Station.

11.6. Building of Queenstown Police Station and Quarters require $800,000. This project was due to be built as far back as 1958. It is intended to be the Area headquarters in an industrial area.

11.7. $308,000 is needed for quarters at Beach Road, Pasir Panjang and Balestier/Thomson Road Stations. At Beach Road the additional quarters would enable the rank and file to live in, some of whom are at present living in rented houses. The additional quarters at Pasir Panjang would enable all personnel to live in and be available for emergencies. Sergeants' quarters are needed at Balestier/Thomson Road Station to replace quarters already demolished in 1957.

11.8. When Police divisional boundaries are redrawn a new Geylang Police Station and Quarters to be located opposite the Geylang Town Centre has to be built. This would replace the present Geylang Police Station and is estimated to cost $850,000.

11.9. A sum of $300,000 approximately is required for expansion of Paya Lebar Station to a Divisional Station. There is need for control especially in the Airport area. This Station will also serve the growing districts of Nee Soon and Sembawang Villages and the Naval Base. As there is no room for expansion at the present site of Paya Lebar Station, an alternative site at the eastern end of the Yio Chu Kang New Town has tentatively been selected.

11.10. $500,000 would be required to build a new Station at Chong Pang Village 13½ m.s. Sembawang Road with accommodation for an Inspectors' quarters. This project is required because of the rapid expansion of this village which is estimated to have a population of at least 35,000. The present station at 14½ m.s. has lost its usefulness especially as a result of the changeover, after the war, of the main entrance to Naval Base from Mata Gate next to the present Police Station to Canberra Gate facing Chong Pang Village.

11.11. Nine Police Posts buildings are required at various Village Constables Posts:—Sungei Kadut, Mandai, Kranji, Keat Hong Post, Tg. Murai Post, Pulau Seraya, Bukom Kechil, Pulau Brani, Pulau Sudong. Each building would consist of a charge-room-cum-quarters. At present the Constables are occupying the Kampong houses. The Village Constable is responsible for registering death, birth and change of addresses in Identity Cards. He is also the only Police Officer in charge of the area. Capital cost would amount to $90,000 for this project.

11.12. There is a project for the demolition of the present building outside the Cavenagh Bridge Station to give way to a new one and the addition of another storey to the present station. The new storey would make space for badly needed office space and canteen and recreation room. A new Operation Room is also needed as the present Marine Operations Room becomes very congested during Standby II Exercises especially when the Military also participates in the Exercise.

11.13. Other minor projects totalling about $\frac{3}{4}$ million are also included in the programme. These include provision of new offices, classrooms, and playing field at the Police Training School and the provision of storage facilities at some police stations.

11.14. In addition to the above projects there are another two main schemes proposed by the Police Force:—

(1) *Scheme to replace Police Radio Equipment*

$1.1 million would be required for this scheme.

The present radio equipment of the Police Force is obsolete. Replacement cannot be deferred much longer without seriously reducing reliance on police communications. The first phase of replacement requires $593,600.

The Police Radio Communication at present operates with 298 sets of which 246 are mobile sets in radio cars, vans, marine patrol boats and the rest in fixed stations.

About 41 per cent of the total number of sets were bought as long ago as 1948. The remaining 59 per cent were purchased in 1952 and 1953.

It has been estimated both by the Police and the Director of Telecommunications that most of the V.H.F. sets used in the Police Force have reached the end of their economic life. The extent of their obsolescence can be judged by the fact that parts required for repair are no longer in manufacture. The normal life of this type of radio equipment is only seven years, after which it would be uneconomical to maintain.

The Director of Telecommunications has suggested a three-year phased programme for replacement originally intended to have commenced in 1960. The six networks proposed to be replaced in 1960 consisted of three networks used in the Combined Operations Room and three networks used in Divisions. This means the replacement of 110 mobile radio sets 35 fixed station radio sets and also equipment in some three control stations and six main stations. Cost of this phase would be $593,600. This has had to be deferred to 1961.

The second phase which would have to be deferred to 1962 would require $300,000 to replace five networks.

The last phase of replacing three networks would cost $210,000.

For this scheme it has been decided between the Police and Telecommunications Department that a much higher frequency range would be adopted to increase security by reducing the possibility of unauthorised persons listening in and also to enable the Telecommunications Department to implement more fully its Master Plan for allotment of frequencies in Singapore and Malaya.

Maintenance costs after replacement has been estimated to be about $5,000 for the first phase.

(2) *Scheme for Expansion of Police Force*

This plan is based on increased need for expanding the Uniform Branch of the Police Force owing to population increase and "spill-out" over areas which used to be unpopulated or sparsely populated.

There has been no increase in the establishment of the Uniform Branch since 1950. It is felt that with growing new suburbs more patrols are necessary over more areas to reduce the increasing trend of housebreaking and thefts which was 100 per cent over the five years 1954–1958. In addition there is the problem of secret society activities to be coped with.

The need for an "adequate" police establishment for future years has been estimated to involve an increase of 1,750 in the Rank and File of the Regular Police Force which would bring the Force to a strength of 6,107 which has been estimated by the Commissioner of Police to be the requirement by 1963. The increase would be phased over four years—440 for each of the first three years and 430 for the last year.

This plan is not a claim on capital expenditure but has been described here to complete the development picture for the Police. If approved and implemented, it would involve a total cost of about $3.414 million.

PRISONS DEPARTMENT

11.15. The full development programme for this Department has not yet been included as development will depend on the findings and recommendations of the Prisons Inquiry Commission.

11.16. The only items at present included under the heading of "Prisons" development refer to minor improvements required in the Local Prison and present accommodation of the Reformative Training Centre. The total sum required is $2.17 million which includes the sum of $809,650 for expansion of Prison Industries and $1,070,000 for works and buildings (Reformative Training Centre) at Ulu Bedok.

STATE ADVOCATE-GENERAL'S OFFICE

11.17. A sum of $30,000 has been included for renovation of the bungalows presently occupied by the Registry of Muslim Marriages, and Shariah Court at Fort Canning. In addition there are tentative plans for erection of new Criminal District and Magistrate Courts at Kallang but no estimates are available at present. There is also a minor scheme of converting the existing Traffic Branch at Sepoy Lines into Coroner's Courts.

CUSTOMS AND EXCISE DEPARTMENT

11.18. The nine projects planned share the common aim of increasing the efficiency of this Department whose functions rank among the most important ones for the financial well-being of the State.

11.19. The Department collects indirect taxes. As Singapore is a free port, duty has to be paid only on three major categories of goods, namely, tobacco, liquor and petrol. There are two main branches in the Department—(*a*) Revenue Collection Branch, (*b*) Preventive Branch.

11.20. The development projects planned are mainly connected with the strengthening of the preventive branch by providing institutional quarters for junior staff who by being housed near their work would be available for urgent calls to duty. Institutional accommodation also furthers departmental policy of frequent postings and assists in promoting *esprit de corps*. These institutional quarters are estimated to cost about $695,000.

TABLE 11.2

DEVELOPMENT PROGRAMME FOR CUSTOMS DEPARTMENT

Projects	*1961*	*1962*	*1963*	*1964*	*Total*
	$	$	$	$	$
1. Changi Station—improvement ..	800	..	..	..	800
2. Strong Room	1,900	..	..	..	1,900
3. Customs Marine Base	..	40,000	..	..	40,000
4. Customs Station, Merdeka Bridge ..	..	10,000	..	..	10,000
5. Pasir Panjang Station and quarters ..	140,000	..	..	..	140,000
6. Other Institutional quarters—					
(i) Tampenis and Woodlands ..	220,000	..	..	..	220,000
(ii) Keppel Road and Peck Seah Street	..	335,000	..	..	335,000
7. Government Toddy Shop, Sembawang	..	22,000	..	..	22,000
Total ..	362,700	407,000	..	..	769,700

11.21. The Station and quarters for staff planned at Pasir Panjang for this year would be located on State land. The project is required to form part of the coastal preventive organisation and replaces the Station at Tuas which was closed down. The function of the new Station would be to enable preventive patrols to cover the western approaches to the Port including Pulau Bukom Anchorage. No increase in staff is involved.

11.22. A new customs station under the Western Span of Merdeka Bridge is planned to supervise seaborne traffic in the Kallang and Geylang basins where smuggling is becoming more frequent. A new Customs Marine Base at Telok Ayer Basin is also planned.

11.23. A proposed Government Toddy Shop would be located on Admiralty land at 15½ m.s. Sembawang District. It consists of one shop house, for which $6,000 is required, two Division IV quarters ($12,000) and sanitary and electrical installations, etc. amounting to $4,000. Total of $22,000 is scheduled to be spent. The project was planned in response to requests from the residents of that district. Revenue resulting would be about $10,800 per month, on assumption of sale of 4,500 gallons per month.

VEHICLES DEPARTMENT

11.24. Two schemes are being considered—one using parking meters and the other expanding the present interim parking scheme using attendants. The capital cost under the present scheme would be much lower than under the parking meter scheme but the recurrent cost especially personal emoluments would be more. The present scheme if expanded would provide additional employment to about 230 persons in the Plan period whereas the parking meter scheme would provide employment for only 70 persons. The sum allocated in the estimates is for the interim scheme, but no decision has been taken yet as to which scheme to adopt.

DEFENCE

11.25. A sum of $140,000 has been allocated for Defence Services. The sum is for equipment for the Singapore Infantry Regiment for alteration to the Seletar Range, erection of Dhoby Ghaut at Changi Camp and for improvements to buildings and grounds at the Ulu Pandan Camp.

11.26. Total requirements for Public Administration development add up to about $13.2 million for the four-year period. A bigger sum would however be required once the Prison development programme is formulated and more definite estimates are made of other schemes.

SUMMARY

11.27.—(i) Public Administration development projects form a small percentage, about 1.5 per cent of the total development expenditure of $871 million with the possibility of further sums being required when the Plans for improving Prison care are completed.

(ii) Of the total sum $13.2 million to be allocated for these programmes, Police development projects form the largest single item requiring $7.5 million, of which $1.1 million would go to radio equipment and about half a million dollars to various projects for improving Police Training facilities.

(iii) Other projects include the building of new Police posts and stations to meet the needs of an expanded population.

(iv) The projects for the Customs Department are aimed at increasing its efficiency.

APPENDIX

TABLE 2.5

ECONOMIC AND FUNCTIONAL CLASSIFICATION OF GOVERNM

(Figures in $ 000s)

ECONOMIC CLASSIFICATION / FUNCTIONAL CLASSIFICATION	General Services			Community Services		
	General Administration	Defence	Justice and Police	Roads and Waterways	Fire Protection, Water Supply and Sanitation	Other Community Services
1. EXPENDITURE ON GOODS AND SERVICES FOR CURRENT OPERATIONS						
A.—Compensation of Government Employees and Armed Forces						
(i) Personal Emoluments of Civilian Employees	13,520.6	1,195.2	20,690.2	6,451.1	..	760.7
(ii) Wages and Salaries of Temporary Staff and Open Vote	778.5	329.8	3,306.5	305.4	33.4	..
(iii) Allowances in cash and kind to Civilian Employees	238.9	224.0	437.4	10.0	..	..
(iv) Contribution to Central Provident and Pension Funds	89.1	109.1	20.1	247.5	..	1.6
(v) Personal Emoluments of Armed Forces	..	2,190.8	..	..	..	..
(vi) Allowances in cash and kind to Armed Forces	..	1,330.0	..	..	..	..
Total, Compensation of Government Employees and Armed Forces	14,627.1	5,378.9	24,454.2	7,014.0	33.4	762.3
B.—Rental of Fixed Assets	110.1	14.2	122.4	..	..	2.4
C.—Military Construction and Equipment	..	1,168.3	..	..	..	..
D.—Other Goods and Services for Current Operations						
(i) Private Sector	2,563.5	2,106.6	2,728.7	3,051.5	..	36.2
(ii) Local Government	186.1	61.4	660.2	472.0	..	7.1
(iii) Other Public Bodies	69.5	28.9	104.0	132.3	..	20.1
(iv) Government Trading Department	54.7	1.3	7.7	0.9	..	330.5
(v) Government Printing Office	77.9	0.7	6.8	9.0	..	2.4
(vi) Public Works Department	132.9	138.3	21.6	8.6	..	15.5
Total, Other Goods and Services for Current Operations	3,084.6	2,337.2	3,529.0	3,674.3	..	411.8
E.—Purchases of Services from Abroad, including Federation of Malaya	2,800.1	153.1	9.7	18.5	..	..
Total, Expenditure on Goods and Services for Current Operations	20,621.9	9,051.7	28,115.3	10,706.8	33.4	1,176.5
2. EXPENDITURE OF GOODS AND SERVICES FOR FIXED CAPITAL FORMATION	238.5	1,217.3	325.2	1,340.1	51.5	68.0
3. PAYMENTS OF INTEREST	..	..	..	..	..	..
4. TRANSFER PAYMENTS						
A.—Transfers to Income Account of Households						
(i) Social Transfers—Money Benefits	10.2	112.6	0.4	..	..	..
(ii) Social Transfers—Gifts in kind	..	..	0.1	..	..	..
(iii) Other Transfers	37.9	..	483.1	..	..	0.4
(iv) Pension Payments—Current	..	..	..	..	..	..
(v) Pension Payments—Capital	..	..	..	..	..	..
(vi) Compensation under Malayanisation Scheme	..	..	..	..	..	..
Total, Transfers to Income Account of Households	48.1	112.6	483.6	..	..	0.4
B.—Transfers to Local Government and Public Bodies						
(i) Special Transfer to Local Government	..	..	..	..	..	..
(ii) Local Government—General Transfers	1,689.0	..	..	620.9	..	..
(iii) Public Bodies—Specific Transfers	1,580.5	..	..	..	..	..
(iv) Quasi-Government Bodies—General Transfers	..	..	..	..	..	..
Total, Transfers to Local Government and Public Bodies	3,269.5	..	..	620.9	..	..
C.—Transfers to Abroad including Federation of Malaya	27.9	..	..	..	..	..
D.—Transfers to Capital Account of Domestic Sector						
(i) Contribution to Development Fund	20,000.0	..	..	..	..	..
(ii) Local Government	..	..	..	23.4	..	..
(iii) Non-Profit Making Organisations (Quasi-Government)	..	..	..	..	..	..
Total, Transfers to Capital Account of Domestic Sector	20,000.0	..	..	23.4	..	..
Total, Transfer Payments	23,345.5	112.6	483.6	644.3	..	0.4
5. FINANCIAL CLAIMS						
(i) Purchase less sales of claims on Non-Resident	1,700.0	..	..	..	..	..
(ii) Net increase in Receivables	65.4	70.0	0.1	..	..	..
(iii) Cash Adjustments: Goods and Services provided free by one Central Government to another	13.3	..	..	..	..	..
(iv) Independent Public Bodies	6,000.0	..	..	..	..	..
(v) Direct Loans and Advances (Households)	..	..	..	..	..	..
Total, Financial Claims	7,778.7	70.0	0.1	..	..	..
Total, Expenditure All Categories	51,984.6	10,451.6	28,924.2	12,691.2	84.9	1,244.9

OF GOVERNMENT EXPENDITURE, 1956
0s)

Services		Social Services				Economic Services				
tion, Supply d tion	Other Community Services	Education	Health	Other Social Security and Special Welfare Services	Other Social Services	Agriculture and Non-Mineral Resources	Transport, Storage and Communications	Other Economic Services	Unallocable Expenditure	Total
	760.7	18,384.4	16,510.5	1,448.4	2,423.3	598.8	7,739.0	..	..	89,722.2
33.4	4.9	339.7	28.7	288.0	46.0	235.4	..	..	..	5,696.3
..	..	..	27.6	5.2	0.4	14.0	40.4	..	..	997.9
	1.6	298.3	319.4	25.5	38.6	6.6	95.7	..	22.4	1,273.9
	..	..	..	..	..	..	..	..	..	2,190.8
	..	..	..	..	..	..	..	..	..	1,330.0
33.4	762.3	18,687.6	17,197.2	1,507.8	2,750.3	665.4	8,110.5	..	22.4	101,211.1
	2.4	..	..	4.0	1.3	0.8	12.2	..	..	267.4
	..	..	..	..	..	..	..	..	..	1,168.3
	36.2	23.9	827.2	434.5	472.6	208.8	6,361.5	1.2	..	18,816.2
	7.1	6.6	24.4	64.2	98.8	5.2	256.7	..	..	1,843.7
	20.1	1.0	9.7	5.5	39.1	2.5	32.6	..	..	445.2
	330.5	0.1	..	0.5	1.4	0.6	1,193.6	..	..	1,591.3
	2.4	0.6	..	..	44.9	0.3	37.3	..	..	179.9
	15.5	..	59.2	0.7	22.9	0.4	70.7	..	..	470.8
	411.8	32.2	920.5	505.4	679.7	218.8	7,952.4	1.2	..	23,347.1
	..	66.2	122.8	..	148.9	57.1	791.1	5.0	..	4,172.5
33.4	1,176.5	18,786.0	18,240.5	2,017.2	3,580.2	942.1	16,866.2	6.2	22.4	130,666.4
51.5	68.0	59.0	219.7	23.5	159.2	56.9	3,024.8	..	..	6,783.7
	..	..	..	..	..	..	..	..	2,550.0	2,550.0
	..	497.9	427.0	7,933.2	522.5	..	..	..	36.2	9,540.0
	..	..	..	132.3	..	..	..	..	..	132.4
	0.4	..	..	..	..	..	10.0	..	..	531.4
	..	..	..	..	..	..	..	..	7,401.1	7,401.1
	..	..	..	..	..	..	..	..	1,922.6	1,922.6
	..	..	..	..	..	..	..	..	..	..
	0.4	497.9	427.0	8,065.5	522.5	..	10.0	..	9,359.9	19,527.5
	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	2,309.9
	..	..	..	..	..	..	..	..	..	1,580.5
	..	20,616.9	6,021.7	..	..	..	..	..	..	26,638.6
	..	20,616.9	6,021.7	..	..	..	..	..	..	30,529.0
	..	17.0	3.0	..	..	6.6	..	..	..	54.5
	..	..	..	..	..	..	..	..	..	20,000.0
	..	..	..	..	..	..	..	..	..	23.4
	..	30.8	1,062.7	..	..	..	..	..	..	1,093.5
	..	30.8	1,062.7	..	..	..	..	..	..	21,116.9
	0.4	21,162.6	7,514.4	8,065.5	522.5	6.6	10.0	..	9,359.9	71,227.9
	..	..	..	..	..	..	..	..	3,930.0	5,630.0
	..	..	..	..	..	..	4.6	..	6.5	146.6
	..	..	..	..	..	..	0.2	..	..	13.5
	..	..	..	..	..	..	..	..	..	6,000.0
	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	4.8	..	3,936.5	11,790.1
84.9	1,244.9	40,007.6	25,974.6	10,106.2	4,261.9	1,005.6	19,905.8	6.2	15,868.8	222,518.1

TABLE 2.6

ECONOMIC AND FUNCTIONAL CLASSIFICATION OF GOVERN

(Figures in $ 000s)

ECONOMIC CLASSIFICATION \ FUNCTIONAL CLASSIFICATION	General Services			Community Services		
	General Administration	Defence	Justice and Police	Roads and Waterways	Fire Protection, Water Supply and Sanitation	Other Commu Servic
1. EXPENDITURE ON GOODS AND SERVICES FOR CURRENT OPERATIONS						
A.—Compensation of Government Employees and Armed Forces						
(i) Personal Emoluments of Civilian Employees	13,507.4	1,555.8	20,976.1	6,842.4	.	7
(ii) Wages and Salaries of Temporary Staff and Open Vote	1,673 8	288.6	2,502.9	272.9	34.3	..
(iii) Allowances in cash and kind to Civilian Employees	240.2	160.8	222.1	9.8	..	..
(iv) Contribution to Central Provident and Pension Funds	95.0	109.1	18.2	231.5	..	..
(v) Personal Emoluments of Armed Forces	..	2,401.6	..	..	..	..
(vi) Allowances in cash and kind to Armed Forces	..	2,006.5	..	..	..	..
Total, Compensation of Government Employees and Armed Forces	15,516.4	6,522.4	23,719.3	7,356.6	34.3	7
B.—Rental of Fixed Assets	124.3	21.5	73.9	3.9	..	
C.—Military Construction and Equipment	..	112.2	..	..	..	..
D.—Other Goods and Services for Current Operations						
(i) Private Sector	4,425.6	1,624.7	3,611.2	3,434.9	..	
(ii) Local Government	81.9	95.8	715.6	488.3	..	
(iii) Other Public Bodies	110.8	19.4	107.5	177.0	..	1
(iv) Government Trading Departments	60.1	.7	6.3	.9	..	2
(v) Government Printing Office	112.2	2.7	5.0	32.5	..	..
(vi) Public Works Department	38.7	173.5	19.5	.5	..	..
Total, Other Goods and Services for Current Operations	4,829.3	1,916.8	4,465.1	4,084.1	..	3
E.—Purchases of Services from Abroad, including Federation of Malaya	1,631.2	102.3	..	17.4	..	1
Total, Expenditure on Goods and Services for Current Operations	22,101.2	8,675.2	28,258.3	11,462.0	34.3	1,2
2. EXPENDITURE OF GOODS AND SERVICES FOR FIXED CAPITAL FORMATION	399.8	269.7	588.8	429.2	3.2	
3. PAYMENTS OF INTEREST	..	..	..	..	..	..
4. TRANSFER PAYMENTS						
A.—Transfers to Income Account of Households						
(i) Social Transfers—Money Benefits	12.7	133.9	.4	..	..	..
(ii) Social Transfers—Gifts in kind	..	..	1	..	..	..
(iii) Other Transfers	38.0	13.6	490.8	.2	..	..
(iv) Pension Payments—Current	..	..	..	..	..	..
(v) Pension Payments—Capital	..	..	..	..	..	..
(vi) Compensation under Malayanisation Scheme	..	..	..	..	..	..
Total, Transfers to Income Account of Households	50.7	147.5	491.3	.2	..	
B.—Transfers to Local Government and Public Bodies						
(i) Special Transfer to Local Government	..	..	..	..	..	..
(ii) Local Government—General Transfers	1,689.0	..	..	806.3	..	..
(iii) Public Bodies—Specific Transfers	1,574.8	..	..	..	..	..
(iv) Quasi-Government Bodies—General Transfers	..	..	..	..	..	..
Total, Transfers to Local Government and Public Bodies	3,263.8	..	..	806.3	..	..
C.—Transfers to Abroad including Federation of Malaya	25.9	..	..	..	..	..
D.—Transfers to Capital Account of Domestic Sector						
(i) Contribution to Development Fund	20,000.0	..	..	..	..	..
(ii) Local Government	..	..	..	41.9	..	..
(iii) Non-Profit Making Organisations (Quasi-Government)	..	..	..	..	..	..
Total, Transfers to Capital Account of Domestic Sector	20,000.0	..	..	41.9	..	..
Total, Transfer Payments	23,340.4	147.5	491.3	848.4	..	
5. FINANCIAL CLAIMS						
(i) Purchase less sales of claims on Non-Resident	1,694.0	..	..	..	..	..
(ii) Net increase in Receivables	371.4	..	..	..	..	..
(iii) Cash Adjustments: Goods and Services provided free by one Central Government to another	21.2	..	..	..	..	..
(iv) Independent Public Bodies	..	..	..	..	..	..
(v) Direct Loans and Advances (Households)	..	3.0	..	..	..	..
Total, Financial Claims	2,086.6	3.0	..	..	..	..
Total, Expenditure All Categories	47,928.0	9,095.4	29,338.4	12,739.6	37.5	1,2

TABLE 2.6

IFICATION OF GOVERNMENT EXPENDITURE. 1957

Figures in $ 000s)

COMMUNITY SERVICES			SOCIAL SERVICES				ECONOMIC SERVICES				
oads and terways	Fire Protection, Water Supply and Sanitation	Other Community Services	Education	Health	Other Social Security and Special Welfare Services	Other Social Services	Agriculture and on-Mineral sources	Transport, Storage and Communications	Other Economic Services	Unallocable Expenditure	Total
6,842.4	..	730.9	21,391.4	17,861.0	1,495.6	2,472.8	581.0	8,101.1	..	..	95,515.5
272.9	34.3	..	4.9	345.6	59.8	254.1	106.5	250.9	..	..	5,794.3
9.8	..	..	..	61.2	..	.3	2.2	63.2	..	..	759.8
231.5	..	1.5	384.0	328.7	27.9	35.7	8.9	77.2	..	18.6	1,336.3
..	..	..	..	..	..	..	..	..	..	..	2,401.6
..	..	..	..	..	..	..	..	..	..	..	2,006.5
7,356.6	34.3	732.4	21,780.3	18,596.5	1,583.3	2,762.9	698.6	8,492.4	..	18.6	107,814.0
3.9	..	2.4	..	..	7.8	1.3	.6	12.3	..	..	248.0
..	..	..	..	..	..	..	..	..	..	..	112.2
3,434.9	..	34.2	27.7	1,144.4	405.8	505.2	318.6	6,967.4	..	..	22,499.7
488.3	..	7.2	8.7	106.7	73.0	100.7	6.9	299.9	..	..	1,984.7
127.0	..	18.1	.9	9.8	5.2	34.0	2.3	32.3	..	..	467.3
.9	..	275.3	.4	1.3	.4	2.4	.7	1,335.3	..	..	1,683.8
32.5	..	..	1.3	3.9	..	35.3	.1	31.5	..	..	224.5
.5	..	..	..	7.5	..	20.6	..	47.6	..	..	307.9
4,084.1	..	334.8	39.0	1,273.6	484.4	698.2	328.6	8,714.0	..	..	27,167.9
17.4	..	138.9	60.0	110.7	..	151.1	73.7	797.7	..	..	3,083.0
1,462.0	34.3	1,208.5	21,879.3	19,980.8	2,075.5	3,613.5	1,101.5	18,016.4	..	18.6	138,425.1
429.2	3.2	22.1	143.2	230.9	90.8	87.1	32.3	317.0			2,614.1
..	..	..	..	..	..	..	..			2,550.0	2,550.0
..	..	..	515.1	153.8	8,788.8	532.5	.. 4.0	25.0		38.9	10,205.1
..	..	..	..	..	142.7	..	..				142.8
.2	..	1.0	..	..	..	..	..				543.6
..	..	..	..	..	..	..	..			8,188.2	8,188.2
..	..	..	..	..	..	..	..			3,134.9	3,134.9
..	..	..	..	..	..	..	..			8,564.5	8,564.5
.2	..	1.0	515.1	153.8	8,931.5	532.5	4.0	25.0		19,926.5	30,779.1
..	..	..	..	..	..	..	..	..	..	..	
806.3	..	..	..	..	..	..	..	..	..	..	2,495.3
..	..	..	..	..	..	..	..	..	..	..	1,574.8
..	..	..	22,226.0	7,094.6	..	..	..	..	..	..	29,320.6
806.3	..	..	22,226.0	7,094.6	..	..	..	..	..	..	33,390.7
..	..	..	13.7	3.0	..	..	9.2	..	..	..	51.8
..	..	..	..	..	..	..	..	..	..	..	20,000.0
41.9	..	..	..	..	..	..	..	..	..	..	41.9
..	..	..	3,777.9	737.7	..	..	..	..	..	..	4,515.6
41.9	..	..	3,777.9	737.7	..	..	..	..	..	..	24,557.5
848.4	..	1.0	26,532.7	7,989.1	8,931.5	532.5	13.2	25.0	..	19,926.5	88,779.1
..	..	..	..	..	..	..	..	..	..	3,930.0	5,624.0
..	..	..	..	..	..	11.2	..	5.4	..	27.4	415.4
..	..	..	..	..	..	..	..	..	..	..	21.2
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	3.0
..	..	..	..	..	..	11.2	..	5.4	..	3,957.4	6,063.6
2,739.6	37.5	1,231.6	48,555.2	28,200.8	11,097.8	4,244.3	1,147.0	18,363.8	..	26,452.5	238,431.9

TABLE 2.7

ECONOMIC AND FUNCTIONAL CLASSIFICATION OF GOVERNMENT EXPE

(Figures in $ 000s)

ECONOMIC CLASSIFICATION \ FUNCTIONAL CLASSIFICATION	General Services			Community Services			
	General Administration	Defence	Justice and Police	Roads and Waterways	Fire Protection, Water Supply and Sanitation	Other Community Services	Education
1. EXPENDITURE ON GOODS AND SERVICES FOR CURRENT OPERATIONS							
A.—Compensation of Government Employees and Armed Forces							
(i) Personal Emoluments of Civilian Employees	13,474.9	735.1	21,618.4	6,846.0	..	728.7	24,178.5
(ii) Wages and Salaries of Temporary Staff and Open Vote	635.4	223.4	2,878.4	285.8	..	..	667.6
(iii) Allowances in cash and kind to Civilian Employees	333.5	24.9	248.8	12.9	..	..	75.2
(iv) Contribution to Central Provident and Pension Funds	77.0	156.3	33.1	215.0	..	1.5	464.7
(v) Personal Emoluments of Armed Forces	..	4,119.4	..	..	..	..	..
(vi) Allowances in cash and kind to Armed Forces	..	2,889.6	..	..	..	..	..
Total, Compensation of Government Employees and Armed Forces	14,520.8	8,148.7	24,778.7	7,359.7	..	730.2	25,386.0
B.—Rental of Fixed Assets	83.2	24.6	74.3	..	..	18.9	..
C.—Military Construction and Equipment	..	175.4	..	..	..	..	..
D.—Other Goods and Services for Current Operations							
(i) Private Sector	2,575.1	2,022.0	3,817.5	3,781.8	..	48.6	888.2
(ii) Local Government	84.8	138.0	873.9	532.7	..	7.6	192.5
(iii) Other Public Bodies	79.9	19.3	126.8	131.9	..	20.1	29.0
(iv) Government Trading Departments	58.4	1.7	6.1	0.7	..	385.0	1.5
(v) Government Printing Office	128.4	3.1	8.6	83.9	..	1.7	5.4
(vi) Public Works Department	38.8	155.5	56.1	5.2	..	0.1	..
Total, Other Goods and Services for Current Operations	2,965.4	2,339.6	4,889.0	4,536.2	..	463.1	1,116.6
E.—Purchases of Services from Abroad, including Federation of Malaya	2,539.6	186.0	..	39.7	..	18.5	134.0
Total, Expenditure on Goods and Services for Current Operations	20,109.0	10,874.3	29,742.0	11,935.6	..	1,230.7	26,636.6
2. EXPENDITURE OF GOODS AND SERVICES FOR FIXED CAPITAL FORMATION	642.6	284.6	454.1	427.4	1.2	118.9	458.0
3. PAYMENTS OF INTEREST	..	..	..	..	..	..	..
4. TRANSFER PAYMENTS							
A.—Transfers to Income Account of Households							
(i) Social Transfers—Money Benefits	107.9	133.0	0.3	..	..	..	1,012.1
(ii) Social Transfers—Gifts in kind	..	..	0.4	..	..	..	120.8
(iii) Other Transfers	20.4	0.2	534.1	..	..	1.4	..
(iv) Pension Payments—Current	..	..	..	..	..	..	..
(v) Pension Payments—Capital	..	..	..	..	..	..	..
(vi) Compensation under Malayanisation Scheme	..	..	..	..	..	..	..
Total, Transfers to Income Account of Households	128.3	133.2	534.8	..	..	1.4	1,132.9
B.—Transfers to Local Government and Public Bodies							
(i) Special Transfer to Local Government	..	..	..	..	..	..	..
(ii) Local Government—General Transfers	1,689.0	..	..	1,647.9	..	..	..
(iii) Public Bodies—Specific Transfers	1,651.4	..	..	..	..	..	..
(iv) Quasi-Government Bodies—General Transfers	..	..	..	..	..	..	25,592.2
Total, Transfers to Local Government and Public Bodies	3,340.4	..	..	1,647.9	..	..	25,592.2
C.—Transfers to Abroad including Federation of Malaya	28.8	..	..	..	..	..	68.6
D.—Transfers to Capital Account of Domestic Sector							
(i) Contribution to Development Fund	36,558.9	..	..	..	..	..	..
(ii) Local Government	..	..	..	17.9	..	..	..
(iii) Non-Profit Making Organisations (Quasi-Government)	..	..	..	..	..	..	4,308.6
Total, Transfers to Capital Account of Domestic Sector	36,558.9	..	..	17.9	..	..	4,308.6
Total, Transfer Payments	40,056.4	133.2	534.8	1,665.8	..	1.4	31,102.3
5. FINANCIAL CLAIMS							
(i) Purchase less sales of claims on Non-Resident	1,487.4	..	..	..	..	..	..
(ii) Net increase in Receivables	41.7	..	..	0.1	..	..	..
(iii) Cash Adjustments: Goods and Services provided free by one Central Government to another	19.3	..	..	..	..	..	..
(iv) Independent Public Bodies	..	..	..	..	..	..	..
(v) Net increase in Cash	40.3	..	..	..	..	..	..
Total, Financial Claims	1,588.7	..	..	0.1	..	..	..
Total, Expenditure All Categories	62,396.7	11,292.1	30,730.9	14,028.9	1.2	1,351.0	58,196.9

VERNMENT EXPENDITURE, 1958

Other mmunity ervices	Social Services				Economic Services			Unallocable Expenditure	Total
	Education	Health	Other Social Security and Special Welfare Services	Other Social Services	Agriculture and Non-Mineral Resources	Transport, Storage and Communications	Other Economic Services		
728.7	24,178.5	19,017.1	1,573.1	2,372.2	583.8	8,397.0	..	..	99,524.8
..	667.6	324.4	9.9	263.9	69.3	247.4	21.0	..	5,626.5
..	75.2	28.0	214.0	0.9	4.4	58.0	..	..	1,040.6
1.5	464.7	290.8	28.0	33.2	10.7	69.1	0.1	31.7	1,411.2
..	..	..	..	..	..	..	..	..	4,119.4
..	..	..	..	..	..	..	..	..	2,889.6
730.2	25,386.0	19,660.3	1,825.0	2,670.2	708.2	8,771.5	21.1	31.7	114,612.1
18.9	..	..	7.8	1.3	0.1	12.3	6.4	..	228.9
..	..	..	..	..	..	..	..	..	175.4
48.6	888.2	1,084.8	195.2	500.5	332.0	7,045.1	44.4	..	22,335.2
7.6	192.5	33.5	67.2	111.7	5.8	316.3	..	..	2,364.0
20.1	29.0	14.4	6.7	46.1	2.9	40.7	..	..	517.8
385.0	1.5	1.1	0.3	6.2	0.6	1,567.7	..	..	2,029.3
1.7	5.4	0.9	..	48.5	..	38.3	1.5	..	320.3
0.1	..	62.2	..	31.0	..	70.1	..	..	419.0
463.1	1,116.6	1,196.9	269.4	744.0	341.3	9,078.2	45.9	..	27,985.6
18.5	134.0	117.2	9.9	185.5	59.4	814.2	155.1	..	4,259.1
1,230.7	26,636.6	20,974.4	2,112.1	3,601.0	1,109.0	18,676.2	228.5	31.7	147,261.1
118.9	458.0	108.0	83.4	136.7	60.7	297.4	3.8	..	3,076.8
..	..	..	..	..	..	..	..	2,550.0	2,550.0
..	1,012.1	225.1	9,811.7	553.1	..	21.6	..	46.2	11,911.0
..	120.8	..	137.4	..	..	..	..	..	258.6
1.4	..	..	..	1.3	..	..	..	..	557.4
..	..	..	..	..	..	..	..	8,674.3	8,674.3
..	..	..	..	..	..	..	..	3,065.6	3,065.6
..	..	..	..	..	..	..	..	5,074.7	5,074.7
1.4	1,132.9	225.1	9,949.1	554.4	..	21.6	..	16,860.8	29,541.6
..	..	..	..	..	..	..	..	..	3,336.9
..	..	..	..	..	..	..	..	..	1,651.4
..	25,592.2	6,900.9	..	..	..	..	..	..	32,493.1
..	25,592.2	6,900.9	..	..	..	..	..	..	37,481.4
..	68.6	3.9	0.2	..	8.7	..	..	..	110.2
..	..	..	..	..	..	..	..	..	36,558.9
..	..	..	..	..	..	..	..	..	17.9
..	4,308.6	349.6	..	..	..	..	..	..	4,658.2
..	4,308.6	349.6	..	..	..	..	..	..	41,235.0
1.4	31,102.3	7,479.5	9,949.3	554.4	8.7	21.6	..	16,860.8	108,368.2
..	..	..	..	..	..	..	..	3,930.0	5,417.4
..	..	..	..	..	..	4.1	..	120.7	166.6
..	..	..	..	..	..	0.2	..	..	19.5
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	40.3
..	..	..	..	..	..	4.3	..	4,050.7	5,643.8
1,351.0	58,196.9	28,561.9	12,144.8	4,292.1	1,178.4	18,999.5	232.3	23,493.2	266,899.9

TABLE 2.8

ECONOMIC AND FUNCTIONAL CLASSIFICATION OF TOTAL EXPENDITURE FROM THE CONSOLIDAT

(Figures in $ 000s)

ECONOMIC CLASSIFICATION \ FUNCTIONAL CLASSIFICATION	General Services			Community Services			
	General Administration	Defence	Justice and Police	Roads and Waterways	Fire Protection, Water Supply and Sanitation	Other Community Services	Educat
1. EXPENDITURE ON GOODS AND SERVICES FOR CURRENT OPERATIONS							
A.—Compensation of Government Employees and Armed Forces							
(i) Personal Emoluments of Civilian Employees†	16,496	906	24,225	7,658	125	767	28,
(ii) Allowances in cash and kind to Civilian Employees	467	33	626	16	..	..	..
(iii) Contribution to Central Provident and Pension Funds	84	77	103	309	..	1	
(iv) Personal Emoluments of Armed Forces	..	2,930	..	..	..	..	..
(v) Allowances in cash and kind to Armed Forces	..	2,359	..	..	..	..	..
Total, Compensation of Government Employees and Armed Forces	17,047	6,305	24,954	7,983	125	768	29,
B.—Rental of Fixed Assets	196	14	..	1	..	..	..
C.—Military Construction and Equipment	..	667	..	..	..	..	..
D.—Other Goods and Services for Current Operations							
(i) Private Sector	4,613	1,082	3,602	6,081	6	136	1,
(ii) Local Government	94	77	839	1,490	..	9	
(iii) Other Public Bodies	92	38	147	25	..	20	
(iv) Government Trading Departments	59	14	7	358	..	368	
(v) Government Printing Office	178	2	10	2	..	8	
(vi) Public Works Department	70	262	223	7	..	..	
Total, Other Goods and Services for Current Operations	5,106	1,475	4,828	7,963	6	541	1,
E.—Purchases of Services from Abroad, including Federation of Malaya	2,342	359	148	18	..	30	
Total, Expenditure on Goods and Services for Current Operations	24,691	8,820	29,930	15,965	131	1,339	31,
2. EXPENDITURE OF GOODS AND SERVICES FOR FIXED CAPITAL FORMATION	410	325	987	802	..	2	
3. PAYMENTS OF INTEREST	..	..	..	..	..	..	..
4. TRANSFER PAYMENTS							
A.—Transfers to Income Account of Households							
(i) Social Transfers—Money Benefits	12	151	7	..	..	..	1,
(ii) Social Transfers—Gifts in kind	1	6	12	..	..	..	3,
(iii) Other Transfers	46	..	40	..	..	1	
(iv) Pension Payments—Current	..	..	..	..	..	..	..
(v) Pension Payments—Capital	..	..	..	..	..	..	..
Total, Transfers to Income Account of Households	59	157	59	..	..	1	
B.—Transfers to Local Government and Public Bodies							
(i) Local Government—General Transfers	..	..	..	1,689	..	..	..
(ii) Public Bodies—Specific Transfers	850	..	..	..	..	..	..
(iii) Quasi-Government Bodies—General Transfers	..	..	..	..	..	..	22,
Total, Transfers to Local Government and Public Bodies	850	..	..	1.689	..	..	22,
C.—Transfers to Abroad including Federation of Malaya	36	..	..	2	..	..	
D.—Transfers to Capital Account of Domestic Sector							
(i) Contribution to Development Fund	20,000	..	..	..	..	..	..
(ii) Local Government	..	..	..	264	..	..	..
(iii) Non-Profit Making Organisations (Quasi-Government)	..	..	..	..	..	..	5,
Total, Transfers to Capital Account of Domestic Sector	20,000	..	..	264	..	....	5,
Total, Transfer Payments	20,945	157	59	1,955	..	1	32,
5. FINANCIAL CLAIMS							
(i) Purchases or repayments of financial claims	1,500	..	..	..	..	..	..
(ii) Cash Adjustments: Refunds, Losses and Other Financial Adjustments	166	..	..	52	..	..	..
Total, Financial Claims	1,666	..	..	52	..	..	..
Total, Expenditure All Categories	47,712	9,302	30,976	18,774	131	1,342	64,

* Includes Rural Board Expenditure.

† Includes wages and salaries of Temporary Staff

HE CONSOLIDATED REVENUE ACCOUNT* FOR THE YEAR 1959

(Estimates).

ES	Social Services				Economic Services				
Other Community Services	Education	Health	Other Social Security and Special Welfare Services	Other Social Services	Agriculture and Non-Mineral Resources	Transport, Storage and Communications	Other Economic Services	Unallocable Expenditure	Total
767	28,813	24,625	1,645	3,246	891	9,453	83	..	118,933
..	..	34	..	..	3	70	1	..	1,250
1	472	328	29	33	13	93	..	40	1,582
..	..	..	..	..	..	..	..	..	2,930
..	..	..	..	..	..	..	..	..	2,359
768	29,285	24,987	1,674	3,279	907	9,616	84	40	127,054
..	..	..	17	9	..	243	1	..	481
..	..	..	..	..	..	..	..	..	667
136	1,421	1,269	401	511	324	6,681	66	..	26,193
9	298	85	59	112	16	337	..	..	3,416
20	38	20	6	34	4	32	..	..	456
368	1	2	1	7	1	34	..	..	852
8	10	1	1	50	..	32	..	..	294
..	20	482	..	24	7	149	..	..	1,244
541	1,788	1,859	468	738	352	7,265	66	..	32,455
30	192	140	..	58	69	845	130	..	4,331
1,339	31,265	26,986	2,159	4,084	1,328	17,969	281	40	164,988
2	425	682	40	163	75	1,821	14	..	5,744
..	..	..	..	..	..	..	..	3,300	3,300
..	1,690	193	9,774	476	..	..	..	..	12,303
..	3,357	374	201	..	..	..	..	..	3,951
1	70	..	93	30	..	23	..	..	303
..	..	..	..	..	..	..	..	13,180	13,180
..	..	..	..	..	..	..	..	3,200	3,200
1	5,117	567	10,068	506	..	23	..	16,380	32,937
..	..	..	..	..	..	..	..	..	1,689
..	..	8,963	..	..	..	..	..	..	9,813
..	22,237	20	..	..	..	..	..	..	22,257
..	22,237	8,983	..	..	..	..	..	..	33,759
..	58	4	..	2	..	..	9	..	111
..	..	..	..	..	..	..	..	..	20,000
..	..	..	..	..	..	..	..	..	264
..	5,040	877	25	..	..	..	..	..	5,942
..	5,040	877	25	..	..	..	..	..	26,206
1	32,452	10,431	10,093	508	..	23	9	16,380	93,013
..	..	..	..	..	..	..	..	4,280	5,780
..	..	..	..	..	..	50	..	100	368
..	..	..	..	..	..	50	..	4,380	6,148
1,342	64,140	38,099	12,292	4,755	1,403	19,863	304	24,100	273,193

es of Temporary Staff and Open Vote Employees.

TABLE 2.9

ECONOMIC AND FUNCTIONAL CLASSIFICATION OF TOTAL EXPENDITURE FROM THE CONSOLIDATED

(Figures in $ 000s)

ECONOMIC CLASSIFICATION / FUNCTIONAL CLASSIFICATION	General Services			Community Services			
	General Administration	Defence	Justice and Police	Roads and Waterways	Fire Protection, Water Supply and Sanitation	Other Community Services	Education
1. EXPENDITURE ON GOODS AND SERVICES FOR CURRENT OPERATIONS							
A.—Compensation of Government Employees and Armed Forces							
(i) Personal Emoluments of civilian employees†	14,948	749	22,780	6,962	129	643	29,250
(ii) Allowances in cash and kind to civilian employees	724	24	338	26	..	..	..
(iii) Contributions to Central Provident and Pension Funds	102	87	97	320	..	2	490
(iv) Personal Emoluments of Armed Forces	..	4,243	..	..	..	..	..
(v) Allowances in cash and kind to Armed Forces	..	2,488	..	..	..	..	..
Total, Compensation of Government Employees and Armed Forces	15,774	7,591	23,215	7,308	129	645	29,740
B.—Rental of Fixed Assets	67	26	..	..	..	..	..
C.—Military Construction and Equipment	..	152	..	..	..	..	..
D.—Other Goods and Services for Current Operations							
(i) Private Sector	4,968	990	3,253	4,884	..	140	577
(ii) Local Government	94	116	986	1,865	..	7	517
(iii) Other Public Bodies	98	24	140	36	..	22	46
(iv) Government Trading Departments	78	12	8	408	..	666	1
(v) Government Printing Office	313	1	5	4	..	7	2
(vi) Public Works Department	78	205	212	7	..	..	..
Total, Other Goods and Services for Current Operations	5,629	1,348	4,604	7,204	..	842	1,143
E.—Purchases of Services from Abroad, including Federation of Malaya	1,254	262	81	10	..	21	201
Total, Expenditure on Goods and Services for Current Operations	22,724	9,379	27,900	14,522	129	1,508	31,084
2. EXPENDITURE ON GOODS AND SERVICES FOR FIXED CAPITAL FORMATION	131	51	825	441	4	2	367
3. PAYMENTS OF INTEREST	..	..	..	..	..	..	..
4. TRANSFER PAYMENTS							
A.—Transfers to Income Account of Households							
(i) Social Transfers—Money Benefits	80	43	6	64	..	..	1,453
(ii) Social Transfers—Gifts in Kind	..	5	19	..	..	..	4
(iii) Other Transfers	43	..	58	..	..	..	151
(iv) Pension Payments—Current	..	..	..	..	..	..	..
(v) Pension Payments—Capital	..	..	..	..	..	..	..
Total, Transfers to Income Account of Households	123	48	83	64	..	..	1,608
B.—Transfers to Local Government and Public Bodies							
(i) Local Government—General Transfers	..	..	..	1,900	..	..	..
(ii) Public Bodies—Specific Transfers	..	..	..	..	..	..	..
(iii) Quasi-Government Bodies—General Transfers	..	..	..	..	..	..	27,217
Total, Transfers to Local Government and Public Bodies	..	..	..	1,900	..	..	27,217
C.—Transfers to Abroad including Federation of Malaya	37	..	..	2	..	..	58
D.—Transfers to Capital Account of Domestic Sector							
(i) Contribution to Development Fund	20	..	..	..	..	..	..
(ii) Local Government	..	..	..	80	..	..	..
(iii) Non-Profit Making Organisations (Quasi-Government)	..	..	..	..	..	..	5,518
Total, Transfers to Capital Account of Domestic Sector	20	..	..	80	..	..	5,518
Total, Transfer Payments	2[illegible]	48	83	2,046	..	..	34,401
5. FINANCIAL CLAIMS—							
(i) Purchases or repayments of financial claims	..	..	..	..	..	..	..
(ii) Cash Adjustments, Refunds, Losses and Other Internal Financial Adjustments	[illegible]70	..	1	34	..	..	..
Total, Financial Claims	170	..	1	34	..	..	..
Total, Expenditure All Categories	[illegible],185	9,478	28,809	17,043	133	1,510	65,852

* Includes Rural Board Expenditure.

† Includes wages and salaries of Temporary Staff a

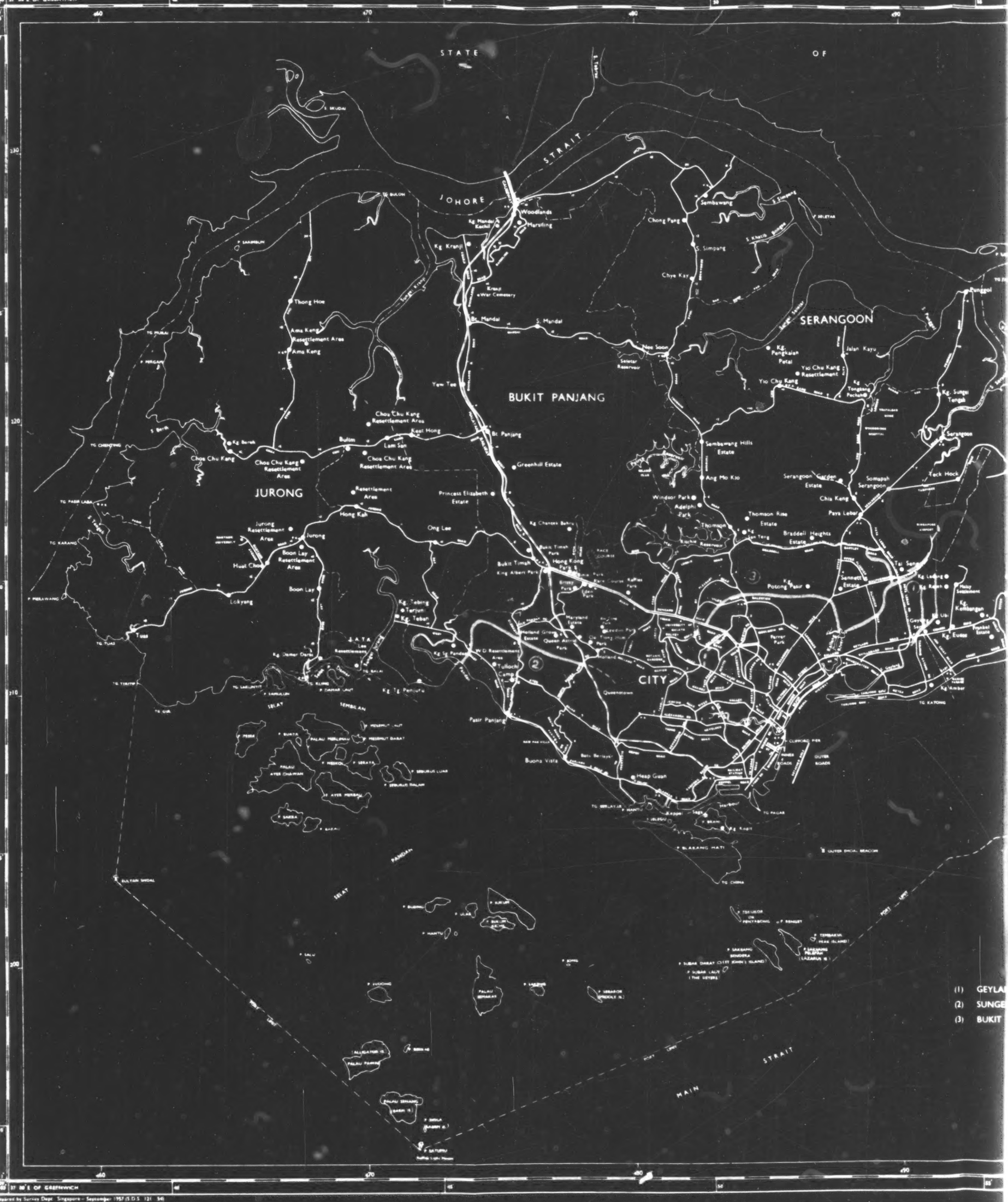
M THE CONSOLIDATED REVENUE ACCOUNT* FOR THE YEAR 1960
0s)

(Estimates).

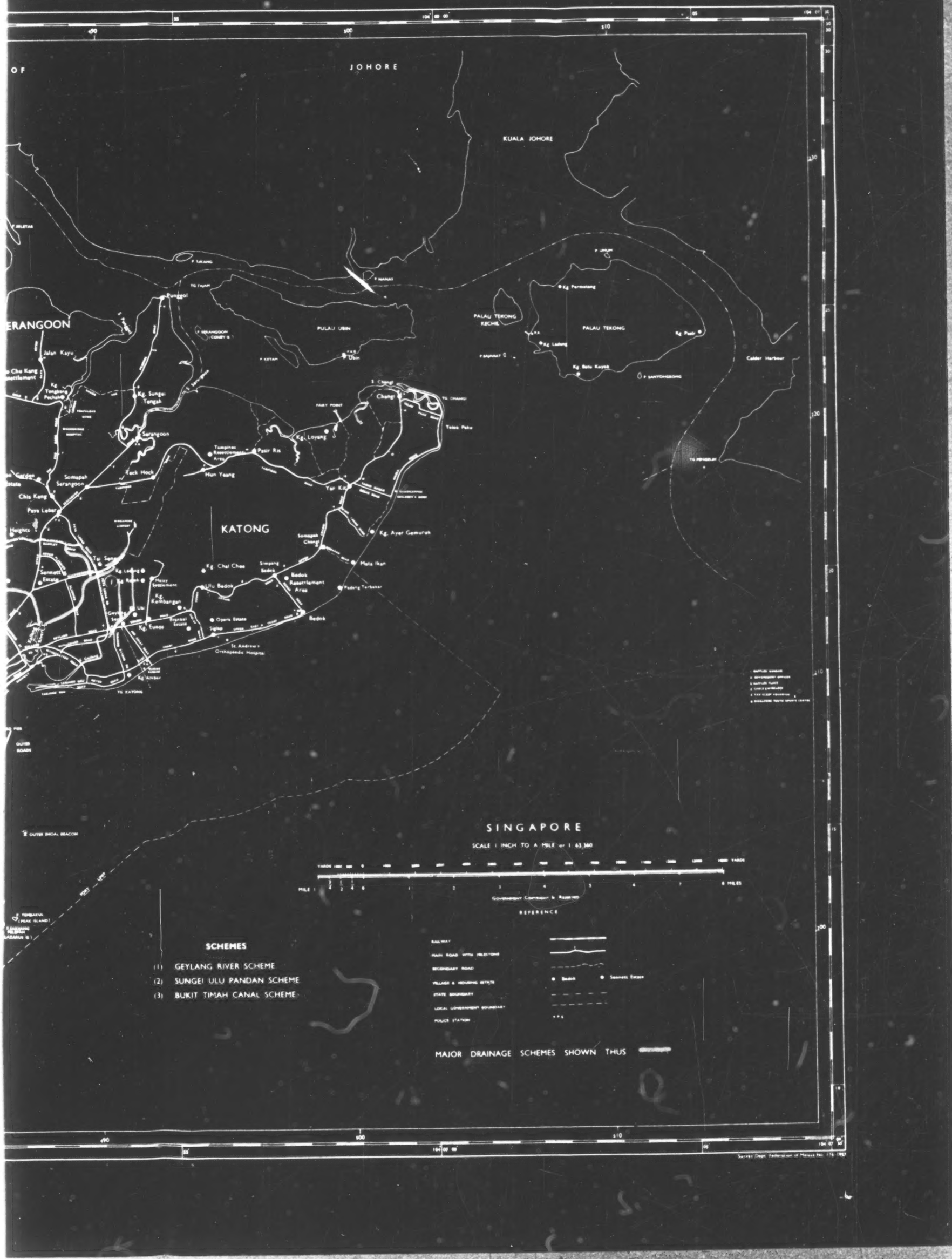
Services		Social Services				Economic Services				
tion, Supply d tion	Other Community Services	Education	Health	Social Security and Special Welfare Services	Other Social Services	Agriculture and Non-Mineral Resources	Transport, Storage and Communications	Other Economic Services	Unallocable Expenditure	Total
129	643	29,250	25,147	1,642	2,400	833	10,046	24	..	115,554
..	..	..	76	..	..	..	85	..	..	1,273
.	2	490	279	24	30	13	89	..	45	1,578
..	..	..	..	..	..	..	..	..	..	4,243
..	..	..	..	..	..	..	..	..	..	2,488
129	645	29,740	25,502	1,666	2,430	846	10,220	24	45	125,135
	..	..	..	..	1	..	134	48	..	276
	..	..	..	..	..	..	..	..	..	152
	140	577	1,272	459	513	355	6,756	1	..	24,168
	7	517	104	44	115	28	491	..	..	4,367
	22	46	22	8	43	1	48	..	..	488
	666	1	1	1	5	..	144	7	..	1,331
	7	2	..	..	..	..	9	..	..	341
	..	..	472	38	23	5	153	..	..	1,193
	842	1,143	1,871	550	699	389	7,601	8	..	31,888
	21	201	158	..	..	74	664	..	..	2,725
129	1,508	31,084	27,531	2,216	3,130	1,309	18,619	80	45	160,176
4	2	367	292	9	78	70	734	..	..	3,004
	..	..	..	..	..	..	..	..	6,942	6,942
	..	1,453	204	11,591	443	..	..	..	..	13,884
	..	4	115	112	..	..	..	..	..	255
	..	151	..	107	30	..	..	..	..	388
	..	..	..	..	..	..	..	..	14,448	14,448
	..	..	..	..	..	..	..	..	4,000	4,000
	..	1,608	319	11,809	473	..	..	..	18,448	32,975
	..	..	..	..	..	..	..	..	..	1,900
	..	..	10,269	..	..	..	..	..	..	10,269
	..	27,217	..	..	..	..	..	..	..	27,217
	..	27,217	10,269	..	..	..	..	..	..	39,386
	..	58	..	5	1	9	..	..	..	112
	..	..	..	..	..	..	..	..	..	20,000
	..	..	..	..	..	..	..	..	..	80
	..	5,518	..	41	..	..	..	..	..	5,559
	..	5,518	..	41	..	..	..	..	..	25,639
	..	34,401	10,588	11,855	474	9	..	..	18,448	98,112
	..	..	..	..	..	..	..	..	6,325	6,325
	..	..	..	..	..	..	418	..	100	723
	..	..	..	..	..	..	418	..	6,425	7,048
133	1,510	65,852	38,411	14,080	3,682	1,388	19,771	80	31,860	275,282

salaries of Temporary Staff and Open Vote Employees.

MAP 1 – MAJOR DRAINAGE S


STATE OF JOHORE
STRAIT
Woodlands
Marsiling
Kg. Mandai Kechil
Kg. Kranji
Kranji War Cemetery
Sembawang
Chong Pang
S. Simpang
Chye Kay
Thong Hoe
Ama Kong Resettlement Area
Ama Kong
Yew Tee
Bt. Mandai
S. Mandai
Nee Soon
Seletar Reservoir
BUKIT PANJANG
SERANGOON
Kg. Pengkalan Petai
Yio Chu Kang Resettlement
Yio Chu Kang
Jalan Kayu
Kg. Tongkang Pechah
Kg. Sungei Tangah
Punggol
Seranggoon
Choa Chu Kang Resettlement Area
Kent Hong
Bulim
Lam San
Choa Chu Kang
Choa Chu Kang Resettlement Area
Bt. Panjang
Greenhill Estate
Sembawang Hills Estate
Ang Mo Kio
Serangoon Garden Estate
Somapah Seranggoon
Teck Hock
JURONG
Resettlement Area
Princess Elizabeth Estate
Hong Kah
Ong Lee
Windsor Park
Adelphi Park
Chia Keng
Thomson Rise Estate
Thomson
Kg. San Teng
Braddell Heights Estate
Paya Lebar
Jurong Resettlement Area
Jurong
Boon Lay Resettlement Area
Huat Choo
Boon Lay
Lokyang
Kg. Tebing Tinjun
Kg. Teban
Kg. Chancery Bahru
Bukit Timah
Bukit Timah King Albert Park
Hong Kong Park
Potong Pasir
Sennett Estate
Tai Seng
Kg. Ubi
Kg. Eunos
Kg. Kembangan
Pekiu Settlement
Frankel Estate
Kg. Lorong
Kg. Kaki Bukit
Kg. Dalvey Darat
Kg. Tg. Pandan
W/D Resettlement Area
Tulloch Camp
Kg. Tg. Penjuru
Holland Grove Estate
Queen Astrid Park
Holland Village
Portsdown Park
Farrer Park
CITY
Queenstown
Pasir Panjang
Buona Vista
Bukit Merah
Heap Guan
CLIFFORD PIER
OUTER ROADS
TG. KATONG
TG. PAGAR
TG. BERLAYAR
TG. CHINA
P. BERKAS
P. SAKIJANG PELEPAS (LAZARUS I.)
P. TEMBAKUL (PEAK ISLAND)
P. SAKIJANG SENDERA
P. SUBAR DARAT (LITTLE JOHN'S ISLAND)
P. SUBAR LAUT (THE SISTERS)
P. BENGGIT
P. TEKUKOR OR PENYABONG
P. SAKIJANG PELEPAS
P. SAKIJANG SENDERA
P. SUBAR DARAT (LITTLE JOHN'S ISLAND)
P. SUBAR LAUT (THE SISTERS)
P. BENGGIT
P. TEKUKOR OR PENYABONG
P. TEMBAKUL (PEAK ISLAND)
P. SAKIJANG PELEPAS (LAZARUS I.)
P. SEBAROK (PICKLE I.)
P. SEBAROK
P. SEBUBUT
P. SEBUBUT LUAR
P. SEBUBUT DALAM
P. AYER MERBAU
P. AYER CHAWAN
P. SEBEK
P. SEBATA
P. BURTA
P. BESAR
P. KUKUP
P. KEKEK
P. KEKEK BARAT
P. KEKEK TIMOR
P. KEKEK TIMOR
P. KEKEK BARAT
P. KEKEK
P. KUKUP
P. BESAR
P. BURTA
P. SEBATA
P. SEBEK
P. SEBUBUT LUAR
P. SEBUBUT DALAM
P. AYER MERBAU
P. AYER CHAWAN
P. SEBAROK
P. SEBAROK (PICKLE I.)
P. SAKIJANG PELEPAS (LAZARUS I.)
P. SAKIJANG SENDERA
P. SUBAR DARAT (LITTLE JOHN'S ISLAND)
P. SUBAR LAUT (THE SISTERS)
P. BENGGIT
P. TEKUKOR OR PENYABONG
P. TEMBAKUL (PEAK ISLAND)
P. SAKIJANG PELEPAS (LAZARUS I.)
P. SEBAROK (PICKLE I.)
P. SEBAROK
P. SEBUBUT

DRAINAGE SCHEMES



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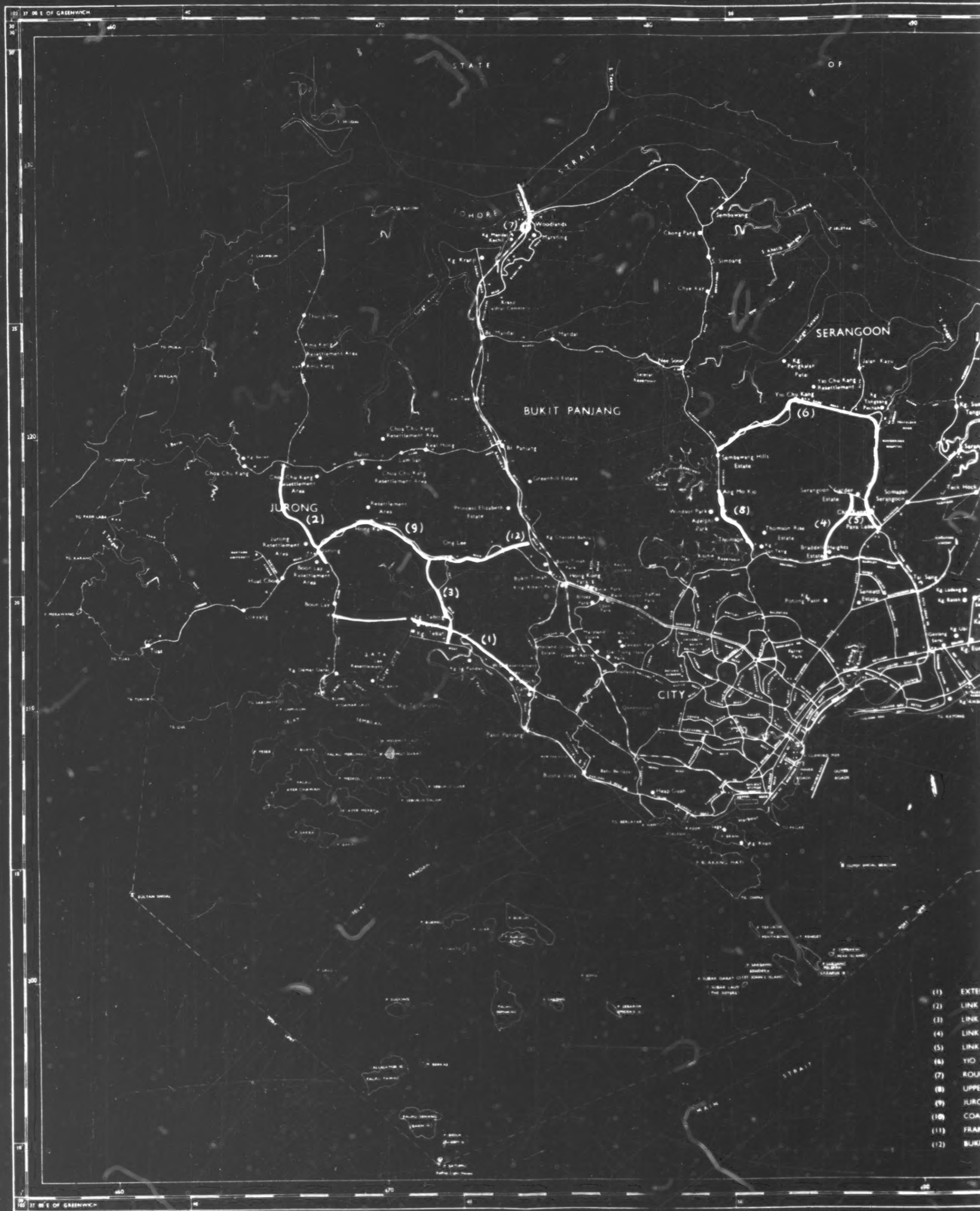
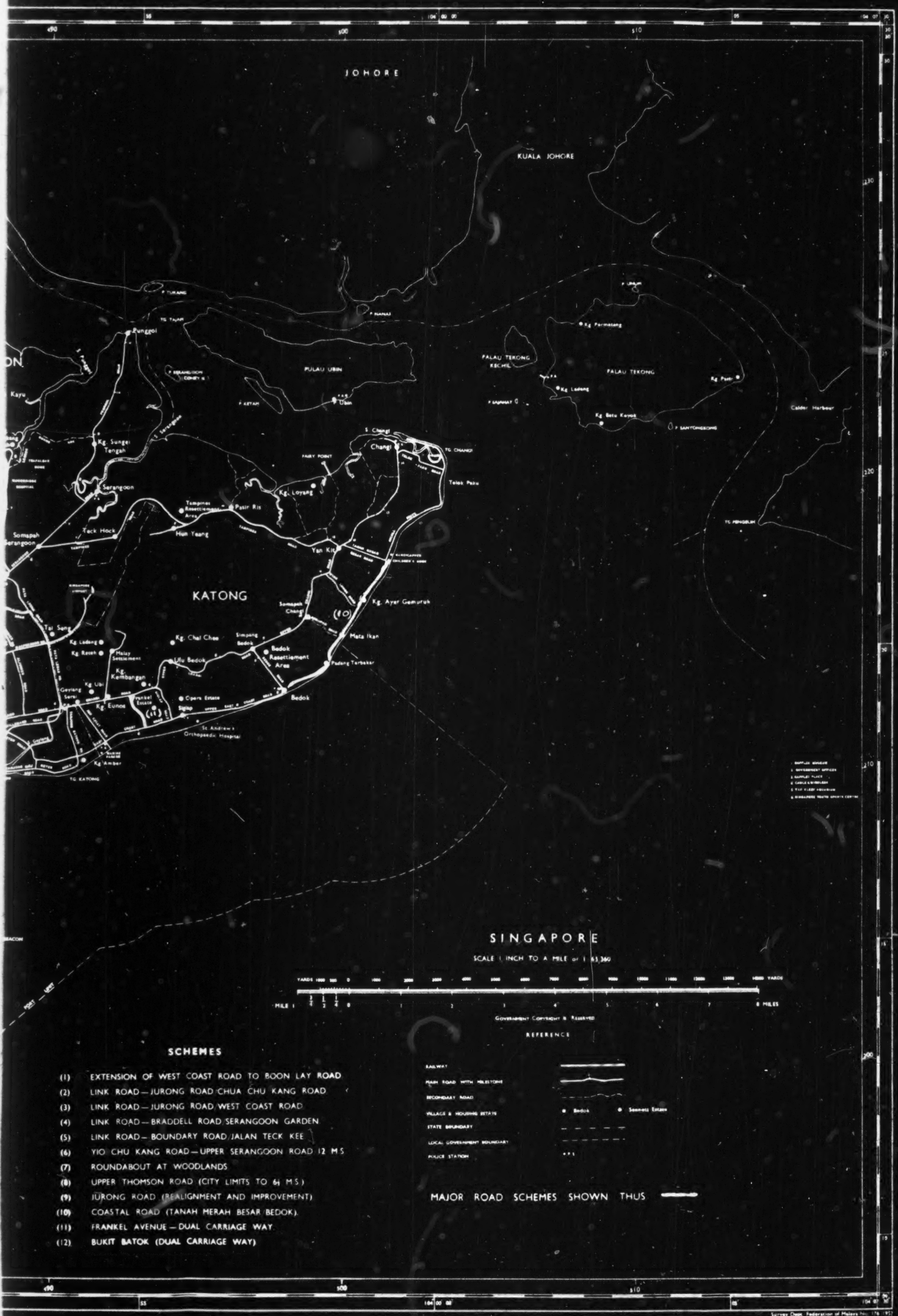
MAP II – MAJOR ROAD S



ROAD SCHEMES



SINGAPORE

SCALE 1 INCH TO A MILE or 1 63,360

YARDS 1000 500 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 YARDS

MILE 1 0 1 2 3 4 5 6 7 8 MILES

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REFERENCE

RAILWAY

MAIN ROAD WITH MILESTONE

SECONDARY ROAD

VILLAGE & HOUSING ESTATE — Bedok — Seaview Estate

STATE BOUNDARY

LOCAL GOVERNMENT BOUNDARY

POLICE STATION

SCHEMES

(1) EXTENSION OF WEST COAST ROAD TO BOON LAY ROAD
(2) LINK ROAD — JURONG ROAD/CHUA CHU KANG ROAD
(3) LINK ROAD — JURONG ROAD/WEST COAST ROAD
(4) LINK ROAD — BRADDELL ROAD/SERANGOON GARDEN
(5) LINK ROAD — BOUNDARY ROAD/JALAN TECK KEE
(6) YIO CHU KANG ROAD — UPPER SERANGOON ROAD 12 M.S.
(7) ROUNDABOUT AT WOODLANDS
(8) UPPER THOMSON ROAD (CITY LIMITS TO 6¼ M.S.)
(9) JURONG ROAD (REALIGNMENT AND IMPROVEMENT)
(10) COASTAL ROAD (TANAH MERAH BESAR/BEDOK)
(11) FRANKEL AVENUE — DUAL CARRIAGE WAY
(12) BUKIT BATOK (DUAL CARRIAGE WAY)

MAJOR ROAD SCHEMES SHOWN THUS

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MAP III — JURONG INDUSTRIAL AREA

AREA

SCHEMES

- WATER-FRONT INDUSTRY
- RELATED INDUSTRY
- RESIDENTIAL AREA
- SHOPPING AREA
- PUBLIC SERVICE AREA
- PARK
- GREEN ZONE
- GREEN WITH TELECOMMUNICATIONS
- ROAD
- RAILWAY
- RESERVOIR
- NATURE RESERVE ZONE
- AGRICULTURE ZONE
- BOUNDARY IN NEW TOWN